



HOUSE OF LORDS

Industry and Regulators Committee

Corrected oral evidence: The relationship between the Government and the defence industry

Tuesday 23 June 2026

11.05 am

Watch the meeting

Members present: Baroness Hayter of Kentish Town (The Chair); Lord Camoys; Baroness Carberry of Muswell Hill; Baroness Drake; Lord Fuller; Baroness Harding of Winscombe; Lord Teverson; Lord Udney-Lister; Baroness Valentine.

Evidence Session No. 3

Heard in Public

Questions 21 - 30

Witnesses

Graham Booth, CEO, 2iC; Jon Parker, CEO and Founder, Flyby Technology; Tom Redman, CEO, Evolve Dynamics.

Examination of witnesses

Graham Booth, Jon Parker and Tom Redman.

Q21 The Chair: Good morning, and welcome to this session of the Industry and Regulators Committee as part of our inquiry into the relationship between the Government and the defence and related industries. These proceedings are being broadcast live on parliament.tv. There will also be a *Hansard* record, which you will have a chance to look at in case we have misunderstood any of the words that you spoke—you will be able to make corrections. I will introduce my colleagues as they put questions to you, but let us start by you introducing yourselves, after which we will go into questions.

Jon Parker: Thank you for inviting me to today's session. My name is Jon Parker. I am the founder of Flyby Technology, a drone company that is sole domain. My background is as an aeronautical engineer and fighter pilot in the Royal Air Force and Royal Navy. I was an airline training captain and I was on the design team for the HMS "Queen Elizabeth" class of aircraft carriers. I set up this company to deliver combat capability for the UK.

Graham Booth: I am Graham Booth. I am the co-founder of a software company called 2iC. We focus on digital interoperability, which is connecting and controlling systems and devices that were not originally designed to work together. We are very much focused on where those systems operate away from built infrastructure, primarily the battle space. I started my career as a computer programmer. I worked my way through various roles in the tech industry. I have spent about half my career working with defence and the other half in sectors such as fintech, insurance and education. Unlike many others in the sector, I have never served in the military; I have always just been in the software world. I am a tech guy but with a real interest in the military. My company, 2iC, focuses on how we deliver value to front-line operators.

Tom Redman: I am Tom Redman, CEO of Evolve Dynamics. We are a British manufacturer of uncrewed aerial systems. For a decade, we have designed and built drone capabilities for defence and security customers. We employ teams in the UK and Ukraine, including a wholly owned subsidiary in Ukraine, where we are supporting technology and are directly informed by operational lessons from the front line. We proudly support the UK defence industry. We are included in the delivery of several programmes—lightweight surveillance programmes for drone capability across the Army, Navy and RAF. I hope to offer some constructive observations and practical recommendations based on our experiences to support this committee.

Q22 The Chair: Thank you. I think that it is already clear why we are so interested to hear from you for this inquiry. I will start with the first question. You do not all have to answer every question. If it is covered by

one of your colleagues, that is fine, but obviously if you have a different angle, do come in. Last year's strategic defence review called for the creation of what it said was a new partnership between the Government and the defence industry. We are interested to hear from you what practical and cultural changes would be needed to bring about that new relationship, particularly with an eye to smaller companies. It would be interesting to know about your relationship with the Government and how you think that could develop for this new partnership. Which of you would like to start?

Graham Booth: I am happy to go first. On my relationship with the Government, as a small company I have had a lot to do with the MoD in its SME initiatives over the last decade or more. I currently sit on the one year-old Defence Industry Joint Council, so I am one of the SME representatives out of the three of us who sit at the top level with the National Armaments Director (NAD) and others from the industry.

I previously chaired the MoD's transparency and metrics working group for SME data, so I have a lot of insight into the absence of data around the MoD. I will probably come back to that during the course of this session. So much of the data does not exist, so that is where there is a really need for a changed relationship. We are making a lot of decisions—I use the collective “we” to mean the Government, industry and citizens of this country—based on feelings, not data.

I was very involved in the work that led up to what is now called the Office for Small Business Growth. In fact, I suggested changing the name from SME Support Hub to one that is more reflective of what it is intended to do. I will be honest with the committee: I have been very disappointed in how little has happened in that office in the past year. I know that we might cover this a bit later, but it is just four people, who are new at the Ministry of Defence, fundamentally trying to change the entire culture of the Ministry of Defence. As it stands, it has zero chance of success and in fact is probably more distracting than it is helpful. There is a lot that we can go into separately, but it is held up as the example of what will be the silver bullet. There are no silver bullets and that definitely is not one.

The main change we need to see is that we have to move away from the focus on bureaucracy. Everything is focused on how we do things—the process—not what we do. As a colleague of mine once said, bureaucracy and paperwork do not defeat or deter our adversaries. You cannot go to war with a policy document. We need to be focused on the output. As SMEs, we see that so much more. It is about changing that relationship and getting the SMEs—my esteemed colleagues next to me and our teams—involved with the users who have the problem. Tom, with the work that his company does in Ukraine, is exactly the lesson we need to be learning from—getting good companies, small companies that are agile, working with the people with the problems, not having bureaucracy and process stopping you but rather enabling you to do just enough safety to be able to achieve the goals. With that, I will hand over to my colleagues.

The Chair: Before you move on, I just missed one word. I think you said focus on the input.

Graham Booth: The outputs of what we want to achieve. Rather than focusing on the process and structure, we should focus on what we need to do. I assume Tom will talk a little bit about this in Ukraine. That is the whole focus. The process is important, but only because you want to seek the outcome.

I will say one last thing on that. In defence, we very much focus on risk. Everything is about risk. But there is one risk that is never, ever considered. In my 15 years in defence, I have never seen anyone consider the risk of doing nothing. The risk of inaction is never considered and often inaction is by far the greatest risk of the lot.

Jon Parker: When we are talking about the relationship with the Government, I think we need to look at it in a slightly different way. The UK—the MoD and the UK Government—seems to be concentrating on equipment, yet our friends and allies are interested in industry. What I mean by that is that we are probably within three years of a peer-on-peer adversary war. If we are, we will need to reinvigorate our entire industrial base for war. If we are not, we will have invigorated our industrial base and prevented a war through having a conventional deterrent that dissuaded an aggressor from picking a fight with us in the first place. In a peer-on-peer adversary war, we are pitching industry versus industry, not warfighter versus warfighter. That is part of it, of course, but the team with the best AI and the best industry will win and the price of failure is too difficult to contemplate.

If you look at our friends across the ocean—let us look at Europe, to start with—Germany has given €1.3 billion to two companies. That was not competed; Germany just realised that those companies were important to the defence industrial base of its nation. Both companies, Helsing and STARK, now have lodger units in the UK that are now picking fights, so to speak, for equipment programmes, because we are concentrating on equipment. They will clean up when it comes to the contracts because they are ready for those contracts. British SMEs are built by their founders; they are not supported by their Government.

If we are to fight a peer-on-peer adversary war, we must reinvigorate the industrial base, which means investing in companies and building them for war. Otherwise, what you have in your equipment stockpiles today will be the maximum amount you have. I would imagine that you would want to be able to resupply the front line from the home hearth in time of conflict.

Looking not only at the Europeans but at the Americans, they are building companies. The drone dominance programmes, stages 1 and 2, are competitions to see which company can go forward to be built into a supplier of capability, not buying kit. It is not a competition for kit; it is a competition for competence. We need to readjust our paradigm and look

at building our industry to fight, not just preparing our warfighters to fight. Without industry, the fight will not last long.

Tom Redman: I would like to build on some of the points that Jon has just made, particularly on what I think of as sovereign SME spend versus SME spend. It is not the same thing. Not all SME spending contributes equally to our sovereign resilience. A contract awarded to a UK-registered SME might still result in IP going abroad, manufacturing taking place overseas, key technologies being sourced overseas and most of the economic value leaving the UK. This is a real problem. I think of it as “SMEwashing” or “Britwashing”, and it is not going to help the Government achieve their objective of achieving the readiness and industrial resilience that Jon talked about. There is a recognition in the SDR and the defence industrial strategy that this is paramount.

If the objective is to build sovereign resilience, we should be following the money. Some practical recommendations around this could be defining what sovereign spend really means. We are still void of having a proper definition of sovereign spend. What does it mean?

I point the committee to something helpful. The United States National Defence Authorization Act—NDAA—is a framework that the US uses to provide a useful starting point to identify categories of technologies, supply-chain technologies and dependencies that are considered strategically critical to national security. It includes things such as microelectronics, communications, sensors, batteries and other critical materials. This would enable us to move away from a narrative of national sovereignty and resilience to something that can be objectively measured in how we are procuring.

To build a little bit more on that quite specific recommendation to the committee, we could also consider the Government putting a sovereign capability scorecard around material significant procurement, weighting in the factors of UK ownership, UK intellectual property in manufacturing content and the production of these critical technologies. The reporting that is available at the moment for the previous financial year, 2024-25, shows a decline in spend with SMEs.¹ I think we are spending 4% of the annual budget directly with SMEs, but you cannot tell from those numbers how much of that spend is actually supporting underpinning sovereign technology. Are we moving the needle on being ready for industrial-scale war readiness?

The Chair: Is what you are saying partly because of the change in war from big heavy tanks—I am oversimplifying—to smallish, uncrewed equipment? Is that what is creating the need for this change, or do you think that it was always going to be there? In other words, has defence always been a bit slow in identifying these critical areas?

¹ Spend with SMEs is reported in the MoD’s regional expenditure statistics with industry which are published annually.

Tom Redman: The nature of warfare has certainly changed following the full-scale invasion of Ukraine and the uncrewed systems technologies, and supply chains and materials that underpin those technologies, are becoming absolutely critical. As Jon said, it is not whether you can deploy some equipment; it is whether you can deploy that at the scale that is needed in a way that cannot be disrupted.

I have a helpful example here: a thermal camera. My company is delivering on a UK MoD project that involves a thermal camera as a critical technology. We spent years moving our supply chain to UK first, and certainly away from adversarial links in the supply chain. The thermal camera comes from a US supplier. This year, we experienced significant disruption because of some of the programmes that you just talked about domestically in the UK, such as the drone dominance programme. I echo Jon's thoughts that that is the hallmark of what programmes to stimulate growth should look like, but it has created a huge surge in demand in the sub-supply chain within the US. All our orders and, we understand, the majority of European orders for this significant component—the thermal camera—were disrupted by as much as six months. A lot of European providers are still waiting for their first thermal camera delivery in 2026. An allied supply chain is disruptable; it is not the same thing as a sovereign supply chain.

Q23 Baroness Harding of Winscombe: The MoD set a target of increasing its spending with SMEs by £2.5 billion by May 2028. I will start this question with you, Mr Booth, because you certainly foreshadowed it. You described the challenges. Can you give us a clear view of what you see as the barriers to meeting that target and what you would do to address that? Specifically, you described the new Defence Office for Small Business Growth not meeting its objectives. What should it be doing and how should it be set up?

Graham Booth: I shall try to be brief; it is my favourite topic. I will start with what Tom mentioned. MoD spend directly with SMEs in the last three years of published data has gone down year on year. So, even on that one we are starting towards that growth target from a backwards trend. We are currently going the wrong way. We have to change the trend and then increase the spend. The published target was to increase by £2.5 billion from the hypothecated £5 billion that we were at. We have gone backwards on that, so actually it is more than a £2.5 billion increase that needs to be spent. So, the target is to reverse the trend and then go forward.

One of the barriers is that there is no money assigned to it. There is not a budget put aside for it. There is no money. There is not £2.5 billion sat somewhere identified for it. It is a case of, "Can we find £2.5 billion elsewhere in the defence budget?" Therefore, one of the barriers is that it will have to come out of current programmes and other things to be pushed into SMEs. So, barrier number one is where that money is coming from and finding it.

Secondly, there are very little contracting mechanisms for doing that. If you take the £2.5 billion, there are roughly 5,000 SMEs in defence—once you take away self-employed contractors and look at actual SMEs, the number is roughly 5,000. The figure of £2.5 billion spread over 5,000 SMEs is £500,000 for each and every one of them every year in spend—half a million pounds-worth of additional contracting for 5,000 new contracts. That is a number that is incomprehensible for the MoD to achieve. It has to find ways to be able to do that.

Before I jump on to how I think you can solve it, why is it important? One reason is that I have talked to every SME and every CEO that I know and said: “If you had another half a million pounds a year of guaranteed business coming in from the MoD for three years, what is the first thing you would do?” Everyone answered the question the same. They said: “I would hire people. I would hire several people off the bat”. That would immediately create high-skilled jobs in the United Kingdom. So, achieving the goal is really important. We drive the economic growth that we want, because we can do that.

What are the barriers? First, there is not the money. Secondly, there is not the contracting. Thirdly, there is not really the will and no one responsible for making it happen. One of the things I would like to put forward is that that £2.5 billion should be a direct spend target—not a hope that the MoD will influence the supply chain to do it over the next two years but rather the MoD stepping up and spending £2.5 billion directly with SMEs, so that it can control it and make it a personal target for the NAD. We have the new NAD structure, which sits in the environment, and the NAD has a nice juicy bonus. Make that one of the criteria for that bonus, so that we see it happen. If someone is accountable, we will see action.

For the last decade or so, we had the 25% SME spend target in the UK. Not once was that ever achieved. Over a decade of 25% of MoD spend with SMEs being a top policy, it was never achieved. In the one year that the MoD thought it had achieved it, three months later it went back to the figures, re-evaluated them, realised that it had double-counted, and fell short. So that was never done. There was no one accountable.

Finally, the Office for Small Business Growth could be part of that answer, but it currently has no spending ability or contracting ability. It is purely a signposting organisation staffed by four people. If it was upgunned with people, potentially leveraging the Commercial X programme, and able to let lightweight easy contracts to flow revenue into those SMEs, that would be a means to do it. It could do that, but it has not been empowered to do it. There would have to be a massive upgunning of that organisation to make it a contracting organisation.

Baroness Harding of Winscombe: That is very clear. Jon, what else?

Jon Parker: It has to be meaningful money. We have been in frameworks where it was said that there was £90 million for that particular framework. Then, when you dig deeper, it was: “If we had the

money, we would spend a maximum of £90 million, but there is no money". So what was the point of us joining that framework and going through the pain of it if there was no money in the first place? When the Chief of the Defence Staff looked at the SDR, analysed it and realised that there was a shortfall of £28 billion, he was not wrong. So, why was he offered £13 billion, which is actually £10 billion?

Something has to go in the force mix. We all agree that UAVs and underwater surface vehicles will part of the force mix in the future. When we discovered that we needed cyber warfare, there was extra money for that. When we realised that we needed intelligence, surveillance and reconnaissance (ISR), there was more money for that. It was the same for space. Now that drones are here, there needs to be more money for that.

It is not a choice. We still need tanks, frigates, destroyers, fighter platforms and attack platforms. These are in addition; they are not a choice. The choice has been removed from us. War has changed and, actually, thankfully, the Brits are ahead in many of these areas. But it is a miracle that we are. With a little bit of extra financial support and growing the businesses—not buying kit; it is not about buying kit, it is about building those businesses—with meaningful money, then we can deliver later.

I am sure that later on in the questioning we will get to how we deliver at scale. I am sure my two colleagues will be able to answer that as well as I can. We have great ideas in the SME community. This is where innovation takes place. Primes can innovate, of course, but they get in their own way because of the taught behaviours from the MoD: "You must behave in this way because this is how we want you to win contracts and deliver on them". The primes were trained in all those behaviours for very good reason, but that was yesterday. All those processes and procedures are now cumbersome and slowing us down. We do not have the time to go at the pace of bureaucracy; we have to just get going.

A meaningful £2.5 billion for the Defence Office for Small Business Growth—Annalisa behind me was part of the design team for that office—is a great idea, but it needs to be actioned with meaningful money. Graham was talking about £500,000 per company. That would not take the skin off this rice pudding for some companies, but for others it would be transformative; there should not be a one-size-fits-all. We should not think of it as dividing that pot by this number of companies. We look at the capability. Which companies do we want to grow? Which will be unicorns? Push those and start competing with Anduril and Tekever and those companies that are setting up in our country with the promise of delivering jobs. It is the same jobs. It is the same kit that is going to be built. Let us have those jobs created by British SMEs, not foreign SMEs, because we will be here if a fighting war starts and we will be able to generate from the home hearth. Will that be the case?

We have seen already that America is not letting stuff outside of America because it needs it for Drone Dominance. The foreign supply chains will be broken and, when they are stressed in wartime and the supply chains of communication start to fall down, we will be reliant on British SMEs. If you have not grown them, what is your answer for delivering the equipment that the warfighter needs? Remember, the warfighter needs to have the reach-for weapon, not something that is “perfectly good enough” or was “just good enough” 18 months ago. It needs to be up to date and in constant spiral development. That is difficult when the vendor that has sold it to you has locked the IP because they want to transfer it to other countries as well, and you cannot adapt it at speed. We need to have British SMEs with open architecture and no IP lock.

Baroness Harding of Winscombe: Mr Redman, is there anything that you would add? Any further barriers that you are seeing?

Tom Redman: Yes, and I will try not to repeat what my colleagues have said. We have had a number of contracts across the last 12 months that would be considered material by an SME above £500,000, and each process for contracting and delivering has been very different. Hopefully, we can offer constructive feedback about how those processes have gone.

From a contracting perspective, what we often find is that demand exists—clearly, there is a demand for drones in any modern NATO nation procurement—and budget often exists. We are not talking about significant survivable tank programmes or submarines. This is a rounding error of a rounding error within the defence budget. But the commercial mechanisms to get under contract are tortuous: “Demand: green; budget: green; contracting”—the whole thing goes red and stalls.

In our experience, we have had a programme of record that took 12 to 18 months to get under contract. It was the fourth biggest out of those four contracts that I mentioned. The whole pace is being dictated by process, bureaucracy, red tape and risk management.

To provide a positive counter-example, we have experienced Commercial X as a more rapid contracting mechanism. That took three to four months for a similar quantum. From what we could tell, the difference appeared to be leaner teams, greater commercial agility, and a stronger emphasis on pace. We were all saying: “Let’s get this done quickly”.

My practical recommendations would be to expand the use of those proven mechanisms beyond innovation procurements—leaner teams can procure stuff quicker—and create simplified procurement for technologies that have already been operationally proven. The risk falls down once you have either technology that has been proven in Ukraine or, for example, an experiment or live trial. At that point, a follow-on purchase should be quick—weeks, not months.

Working capital is something that we do not talk about very often but is a real challenge to success for an SME. In most industrial sectors that we

work with there is a mobilisation payment. You will always have a prepayment to secure some of the services at the start, some sort of interim payment and a delivery payment. The MoD, in our experience, defaults to the vast majority being paid on delivery. In effect, that means the SME is financing defence procurement on behalf of the state. The money exists but the flexibility is not there.

Again, on some Commercial X contracts, I have been able to negotiate interim and mobilisation payments, which has smoothed out and better reflected the supply-chain payments that exist for our company but in the main, we have been left to find ways to fund delivering the deal.

The annual budgeting cycle is something else I would like to highlight. What we have experienced, and it is getting worse each year, is that there is a heavy influx towards the end of the financial year. In Q1 of the calendar year, we have a big surge in orders placed. Then it drops off. Rather than operational demand, we are talking about an accounting technicality. I understand why it needs to be done and that the Government need to have cross-departmental planning in place but, to highlight the impact on the industry, it creates a surge in demand, we then have to do a sharp ramp down, we cannot plan resources and we have to pay rush orders. Sometimes you are making real trade-offs in quality to try to hit a deadline.

Industrial resilience is built through predictable demand, not spikes and spends. My recommendations here would be to encourage more even procurement throughout the year—it is a simple idea but would smooth out some of this lumpiness in the supply chain—and to allow a bit more flexibility in carrying over budget. We have seen examples in the US where the annual target is getting under contract, not delivering.

I would also like to highlight what I think of as long money rather than batch-based procurement. A £10 million contract over several years is transformational to an SME and enables it to focus on a medium-to-long-term view of how you build up your resources and technology, how you plan your road map and how you plan to create lasting impact. But with batch-based procurement, which is what we are experiencing at the moment, we tend to get an order and it takes three to four months, or maybe even six months if we do not have the thermal cameras to deliver, and then we are standing down again and the headlight, runway and visibility for the business are pretty low. It is extremely hard to talk to investors and raise private finance on the basis of that visibility.

The most important impact for the Government is that there is no planning that can happen to build out long-term industrial resilience. My practical recommendations there would be to use multi-year frameworks where possible—again, we are not talking about hundreds of millions and billions here, but long money is different to batch—and to move from one-off purchases to a repeat procurement once an operational capability has been proven, so rapidly moving to: “It works, we want it, let’s buy it”.

The Chair: On the point about quarter 1, I was brought up in the Air Force and the joke was always that quarter 1 was when the new carpets went down in the officers' mess. I cannot believe that nothing has changed. That was a long time ago.

Q24 **Baroness Carberry of Muswell Hill:** I know that my colleagues will want to pick up a lot of those detailed points about processes and procurement, but I want to just pause for a moment and get a picture of your individual companies and the extent to which you supply the MoD directly, as opposed to your relationship with the larger primes, which I assume you also supply. In particular, is contracting with the larger primes a simpler and more straightforward matter than contracting with the MoD? Just give us a sense of that landscape.

Jon Parker: I guess it comes from what your SME's role is. Most SMEs are subcontractors to primes anyway, so their relationship with primes will be different to, say, Flyby Technology, which is an original equipment manufacturer. Our relationships are in a completely different paradigm. We do deliver direct to the MoD and will continue to in a number of programmes of record—at the moment there are two transformational ones for open architecture frameworks and delivering combat effect, which is all I can say about that particular one. Our relationship with primes is healthy and the primes that we deal with are magnificent.

I will give examples. We fired a missile from a hovering drone at two metres. The missile was supersonic. Sir Isaac Newton thought that might be a bit tricky, but we did not, and we achieved that a number of years ago in support of the fight for Ukraine. THALES in Belfast leant in magnificently with its missile. The lightweight multirole missile is an outstanding weapon and is probably underrated everywhere in the world, but I am sure will be very famous later in its days.

Our relationship with Rolls-Royce is magnificent. Because we are an original equipment manufacturer and able to design aircraft, we are now looking at designing unmanned fighter aircraft using Rolls-Royce engines. Our relationship with Rolls-Royce is blossoming beautifully. It is a highly competent company that treats us incredibly well.

There is no friction in the relationships with primes, even though it might look like we are a competitor. We do not see ourselves as a competitor. We build the stuff that they do not want to. They want the big-ticket programmes that are going to last for 30 years—and there is a place for those; we are not suggesting that there is not—but drones go out of date within six weeks. The OODA loop² for combat effectiveness changes. So, the reticence of the MoD to buy things that are on the shelf now in case they go out of date is a bit flawed because they are not taking into account the constant spiral development.

² The OODA loop is a commonly used decision-making model. It contains stages to Observe, Orient, Decide and Act, with each stage providing feedback and additional observations.

The airframes do not change. The First Person View (FPV) drones that are being used in Ukraine are 15 year-old designs. There is nothing different about the design of the aircraft. The kit that goes on them is changing every six weeks, and that is where we need to get to.

Our company is full of warfighters, which helps us because we can understand the exam question in a different way. Some of the primes still have strange mindsets. We were at the opening of the unmanned system centre in Swindon for the first visit of the Secretary of State. He came to our stand and we had a wonderful time. He spent a lot of time with us, which was heartening. But one of the primes realised that we had a technology available to us and said, "We would like that". We said, "Yeah, sure". The prime said, "If you don't let us have it, we'll just buy that company anyway". That may have been a flippant remark from a junior official. It might not have been the intention at all. It is probably not how they want to operate. But that feeling was there and we thought, "Now what do we do? We need this technology for our aeroplanes. Do we secure it and hold it, so that we get it, in which case that stifles that company? But if somebody else gets it, they will stifle it from us". There was a tension that was unnecessary.

Why do we have to go through that when, actually, the primes have an amazing and important role? We do not eat their sandwiches. We are on different programmes that they do not really want to be doing. That might change in the future, of course, as the industrial complex builds, if it ever does. But right now, we should be working together.

What are the roles and responsibilities that our Armed Forces have to satisfy? That question will derive the capability gaps. It might not be the MoD that recognises them first. It probably will, but it does not always. Companies such as ours see capability gaps emerging and can fill them quicker than a procurement process that lasts 18 months.

Graham Booth: As a software company, working in defence is quite different to any other sector that you work in. In most other sectors, you would often sell your software directly to your customers. Defence typically does not buy software. It does not know how to buy software. It typically buys much bigger capabilities, combining software, hardware computing systems, communication systems, training programmes and, as Jon said, over multi-year programmes. Defence is unique like that. That means that, as SMEs, which tend to be more niche in what we are really good at, more often than not you find yourself working with part of a larger organisation.

On our experiences with larger companies—the primes—it depends on where their decision-making is. If it is a UK company or has delegated decision-making to the United Kingdom, it is a lot easier to work. That ties back to Tom's point on sovereignty. If the people I am dealing with are UK-based and decisions are made in the UK, the relationships are good. A couple of primes have been excellent with us. We have very good relationships. We are embedded in a few of their programmes where people do not even know we are. That is brilliant.

When those companies look the same on their front door but are headquartered in another country—the US, historically, but we are seeing a wider range—the decision-making is not in the UK. Therefore, the relationship to those companies is nearly always difficult, if not non-existent, and the sort of predatory behaviours that Jon just mentioned become far more common, because the person who makes the decision is not the one you are talking to. They are further away. There is a very big distinction. It ties into that sovereignty piece: where is the decision made and where is the access decision made? It also ties into how we work with the big companies.

The third point I will make on this is that, after the SDR was released, a bunch of us SMEs, which are all used to working together, said, “Hang on a minute. The MoD said it would like a new relationship and would like to see self-forming consortia”. So we did that. We have a self-forming consortium called SCEPTRE, which two of us, Tom and I, are part of, which came about through SMEs that naturally work together, saying, “We all work together anyway. Let’s put a label on the door, work collaboratively, and try to present that back to the MoD in a way that it can suddenly engage with 10 to 15 SMEs that offer a broad skillset, not necessarily a prime”.

I will be honest; it has had a lot of interest, but the MoD does not know how to contract—this goes back to my previous point—or how to work with anything that is not a traditional large prime with a large multi-year balance sheet. There is an opportunity there to look at how we have more UK collaborative working. I am sure that if you ask the three of us here privately whether we work with other SMEs, we would all say that we work with other SMEs all the time. If you phoned any one of us and asked whether we know a company that does X, Y or Z, there is a very good chance that all three of us would know someone and phone them. We naturally collaborate behind the scenes. Trying to bring that to the fore, to provide the resilience that Jon talked about, is the opportunity that can be with a prime or even just as consortia.

The Chair: Do you have anything to add? If not, do not worry, because I am conscious that we have a lot more questions.

Tom Redman: Yes, very quickly, I have very simple opinion on this. Our experience has been exclusively direct engagement with the MoD. In uncrewed systems, we think that this maximises customer intimacy, responsiveness, speed of iteration and keeps our products reassuringly affordable.

Q25 Baroness Valentine: I have questions that follow on from what you have just been saying and will add another question. You have touched on various aspects so please do not feel the need to repeat what you have already said. How do procurement processes and contracts need to change to adapt at pace to new technologies and requirements such as drone and anti-drone capabilities, and to make them easier for SMEs to engage with? What progress have the Government made in moving towards their new segmented procurement model? Do the Government

need to accept a greater level of risk in their procurement of new technologies and capabilities? I know that those are long questions but pick up bits that you want to reply to.

Connected to that question and what you have just been talking about, there are big infrastructure projects elsewhere in the UK. I am thinking about the Olympics, HS2, and Sizewell C. When I was running London First in the early 2000s, we had the Olympic Park being built, and as a result we wanted to push business down to SMEs and to local people, so the contracts to what would be the equivalent of your primes required 20% local SMEs and employees. I am just wondering whether there is any use of that in the defence world. Also, we set up at the time something called CompeteFor which is still used, I see, by Sizewell C today, which is about making clear to SMEs what products are available. I am just wondering if there is any cross-sector learning from that. If one of you would like to answer any of those questions that would be helpful.

Tom Redman: I will make just a brief point, then touch on one of your first questions, around how are we are procuring for these new technologies. In traditional procurement, there are stable requirements, long platform lifecycles, and low rates of technology change. So there is a model which I think of as: you specify, you compete, you buy, and then you field the equipment. The emerging model that we are seeing is: you buy, you buy what is available, you learn, you adapt, and you buy again. There is a fundamental change that is required to procure at meaningful volumes. We are talking tens of thousands of drones per month in order to enable that type of mindset.

The second point I wanted to highlight was a winner-takes-all mindset to competitions. I am still seeing this as the default way to procure: you compete a capability and run a process. There is usually some sort of evaluation criteria, and sometimes there is a fly-off. Ultimately there is a winner—a last man or woman standing in uncrewed systems.

This unintentionally weakens the industrial ecosystem. Competition should continue after a contract award and not end because of it. To also refer back to the Drone Dominance and Replicator programmes in the US, we are seeing multiple companies—we are talking about more than 10—getting meaningful contract awards off the back of what they call gauntlets, which are the equivalent of a fly-off competition. What that does is to keep the competition healthy between companies that are producing the relevant capability. But there is a whole sub-supply chain structure, which is then not underpinned to one vendor. The Government also then avoid having this vendor lock-in. Of course, there needs to be some cohesion and potential down selection over time, so that every soldier does not have 10 different drones to understand how to train with. But I do not think we need to solve that immediately. We are stifling competition as a result of this approach.

Graham Booth: The current procurement process was brought in in 1998. That predates Google, smartphones and home broadband. At the time 9% of households had any internet access, and that was dial-up—for

those of us who remember it. An awful lot has changed in that time except how defence buys tech. We are still buying tech the way we designed to buy tech in 1998. That is the big root of the problem here. If you were to go out to try and buy a new smartphone now, the MoD would go and do a “big requirements” up-front exercise, ask everybody what they wanted and define exactly what that smartphone looked like. They would take their best ideas from iPhone and the best ones from Android, and they would go and define one. It would be eye-wateringly expensive and take forever. The rest of us, when we choose if we want an iPhone or an Android phone, go out, buy it and turn it on this afternoon. That is Tom’s point. We must move that mindset to ask what outcome we want to achieve and when we want to achieve it, without these exquisite up-front requirements.

As a techie, when I came back into defence, the hardest thing I had to learn was how to do up-front requirements. In the software industry, we had largely dumped them by 2002, after the Standish report, because it proved that they just do not work. The MoD relies on them to do the work, and that drives an overspecification, and then that drives the risk-averse nature. Because everything becomes so analysed, you then start looking at all these perceived risks. Perceived risk is the important one. Another very practical one is that in MoD, when anyone is going through a procurement, as Tom was saying, the number of people who can say no to signing off the contract, at the last count—from chatting with a colleague—was 28. One person should be able to say yes; the others can advise. If you get down to actions, being risk averse makes someone accountable—and the accountability for doing nothing has to be just as important. If you delay contracts for two years, what is the impact of that? It must be factored in. Buy quickly, buy off the shelf—to Tom’s point—and do not get tied up in complex procurement: buy tech like everybody else, but buy tech as opposed to how defence does it.

Jon Parker: Tom and Graham have represented my view perfectly. The only thing I would add is to buy British off the shelf.

The Chair: Baroness Valentine, did you want to come back on any of that?

Baroness Valentine: On my other question about CompeteFor, is there any use of that way of procuring in the MoD, where they require the primes to do 20% local?

Graham Booth: I can pick up on that. The short answer is no. I banged my head around for years on the SME action plan. Twenty-five percent flowing down was always a nice-to-have, but was never contracted. A salesman at a prime gave me a very simple suggestion: if on every tender you said that 25% of the marks were based on spending at least 25% of that budget with a UK SME, and you could prove it, you would get the 25%. If nobody could do it, nobody would get any benefit. If an SME could not do it, you are building a nuclear submarine, it does not make any difference because no one could do it. The company that can manage an SME supply line, or are an SME themselves, would immediately get

25% more marks and would have a very good chance. But the MoD has never done those and has always argued it would be illegal for them to do it. I would be very interested to see how other sections of Government have done it within the same law, where the MoD have argued that they could not mandate that, which I always thought was an excuse.

The Chair: There are some clever advisers around the table who will look at that question for us.

Q26 **Baroness Drake:** Most of my question was answered in your response to Baroness Harding, so I will try to focus my question more precisely. I will ask about the barriers to innovative SMEs navigating into defence in the first instance. You have all mentioned the money contracting processes and MoD skills, and they are two or three of the key barriers that have been identified to us. Is the defence landscape too complex to navigate tens of different gateways for innovation, funding, tenders and contracts, some of them hundreds or thousands of pages long? I do not know if that is a fair summary, but what, in your view, would be the key changes that would give you the quick gains for overcoming these barriers and assisting the new and future innovative SMEs getting into the defence space?

Graham Booth: I will pick up some of those concerns along with colleagues at the back of the room, we helped design some of the work that went into the Defence Office for Small Business Growth, which could have been a way to help that by producing better signposting. But four people for the defence industry is not going to be enough. The frameworks you mentioned, as part of the previous work we did under the Defence Suppliers Forum, identified well over 100 frameworks in use by the MoD at any moment in time. We did a piece of work recently under Defence Industry Joint Council that recommended some actions, one of which was that the MoD publish what frameworks they actually used and for what. They have not been able to do that, and they do not even know their own frameworks. Part of the work that came out was that the framework that typically gets used is the framework that is familiar to the contracting officer letting that piece of work, not necessarily the framework that is appropriate for that piece of work. As an SME, I say with my two colleagues here, that there is no chance we could be on 100 different frameworks. A handful might be practical; 100 will not be.

Often—and in my personal experience—we had a piece of work for which we were the current supplier, and then the Army needed to put it through a different framework. They chose the framework they were familiar with, not one we were on. They told us which framework they would put it on and suggested we met the 10 or so framework holders and build a relationship, so when it came out we could then sub to one of them. We subbed to one of them and got marginalised because we were now too far down the supply chain. That happens all the time.

In terms of innovation, the key point is to get people into the user and—to pick up Tom's point—not try and pick the winner on day one. Pick lots

of companies, build that resilience, build that capability. DASA—the Defence and Security Accelerator—proudly claimed that they reject 90% of good bids. That is insane. It is totally the wrong way around; it should be that you reject all stupid bids and, for anything that is credible, give it a go. Once the money flows, you develop things. The cash flow is what keeps businesses alive. It creates the innovation and the next generation of ideas. You should flow money. Do not try and pick the winner up front, just try to get started and do things. Then you will learn things. Do new things. That is how you innovate. You never innovate by defining the winner at the start and hoping for the best. It has never worked, but that is what the MoD thinks works.

Jon Parker: I totally agree with that. If we could have one defence sourcing portal where everybody knows that this is the only way, as an SME, that you can go through any process to get a contract, that would really help. Things are announced in different places, and you do not know what you do not know as an SME.

Perhaps, to help SMEs, there ought to be a triaging company set up. It should not be a government department, because it would start to develop its favourites. We need a way for an SME to be guided towards things that are appropriate to it.

SMEs are great at innovation, but they are not great at scaling, assurance, certification or frameworks. There should be a mechanism for when there is a great idea from an SME which is not prepared enough to deliver the idea. Rather than have that idea competed and therefore socialised among all the primes, and the SME never getting to capitalise on its great idea, we could bring some horsepower into the company from Government and say, "We will do the certification with you. We will give you some advice on assurance. We will even show you how the bid system works".

I will give an example of why this did not work. In one of the major bids, it said—and this was supposed to be for SMEs that were new to defence—"Tell me how many government programmes you have delivered to Government". If you did not score as highly as the primes, you were never going to get through, yet it was set up for SMEs. The programme is for primes with SMEs tacked on, with their capability. That is not the answer; we need to grow more companies in more breadth, rather than have those companies support a few primes, most of which are not UK ones. We need to think in a different way. There should be one portal and help for the smaller SMEs—the Freds in the sheds—which have the great idea to take the idea forward, so that it benefits them and not the first prime that saw it.

Tom Redman: I would take a slightly different perspective or approach on this, in thinking about a microcosm of what the Government are trying to do. I would set the long-term strategy for my company. The strategic defence review and the defence industrial strategy are broadly on the money, and it is well understood that the challenges and the direction of travel we need to go in are correct. I would then set granular metrics and

objectives, and employ people to deliver on them. We are missing that level of granularity on reporting. If we cannot objectively measure things such as sovereign procurement, and if we are not transparently reporting potentially by quarter—or at least by year—long-term contracts placed with SMEs, how do we know that we are on the right track? That level of reporting would drive good people within the Government and the MoD and people responsible for procurement to come up with the right initiatives to increase the level of access and the long-term procurement that we are looking to drive within the industry.

Baroness Drake: Mr Booth, in one of your earlier replies, you talked about the absence of data within Government. It is not an unfamiliar problem in many places, but is any of the absence of data relevant to SMEs' experience or government understanding of what you need to do to harness innovative SMEs?

Graham Booth: Yes, because the fundamental point is, if you do not understand your data and impact, you cannot understand whether a policy decision or an action had the consequence you wanted, had the right or wrong output, or had an unintended consequence if you have no way of measuring it. A lot of the SME data was on SME spend and SMEs in the supply chain, and so much of the data was poor. I saw a lot in the data feed that had universities listed as SMEs, and subsidiaries of large multinationals listed as SMEs, which broke the definitions. It meant you did not have the dataset, so if you made a policy statement about wanting to spend another £2.5 billion with SMEs and there is no way of measuring it—this is to Tom's point about reporting—you have no way of knowing if you are achieving it. You do not know if you are going the right way or completely the wrong way. You might bring in a well-intended policy that suffocates a whole section of the industry. You want to catch that and know it is a bad idea, and change it. If you do not have any of the data and you are relying mainly on primes telling you what they think you want to hear, you are not going to get the evidence.

If we look back to Covid times, the Government suddenly learning how to use data and make sense of it fundamentally changed how Government works, and very successfully. We need that same level of data-driven decision-making in defence, particularly when you are looking at, on the industry side, £36 billion a year of taxpayers' money being spent. We must have a better idea of how it is being spent, be able to look down the supply chain and, on Jon's point about throwing money down supply chains, at how we build resilience. If we do not know who is in the supply chain, we do not know how resilient our supply chain is. They are all related. I am a mathematician by degree; I like numbers, and therefore I come back to: if we do not have the numbers, I struggle to see how you might make the decisions.

Baroness Drake: Is your understanding or knowledge of the Government focused on looking at this data and providing, collecting and monitoring their dataset?

Graham Booth: I know they are aware they have a problem. I am not convinced they are actively trying to solve it. I think it is one of the problems that is in the “too hard” basket, for want of a better term. They know it is a problem and, again, as we saw in the Covid times, getting to that data early on was so important. I think MoD sees the problem, but I think it is not taking the necessary action.

Jon Parker: If it is SME data that you are looking for, is an SME that has been acquired by a prime really an SME? That is another thing to watch for.

Q27 **Lord Udney-Lister:** I am going to ask about the supply chain, which you have dealt with quite a bit, so I am not asking you to repeat everything. What are the critical materials, components and other inputs that you need, and to what extent are they available in the UK supply chain? To help me, give me an example of something about which I know nothing. You talked about thermal cameras. If there is such a shortage of the bits for a thermal camera, why does somebody not want to build the bits for it? Can you help me with this supply chain question? I have a secondary question, but I will come back to that, if I may.

Tom Redman: The vast majority of the critical components that go into uncrewed aerial systems, and uncrewed systems in multiple domains, are underpinned by largely Chinese technology. Neodymium, which is a material that goes in, is a rare earth that gets refined. It goes into motors, and 87% of the world’s neodymium is refined or controlled by China. For the example I gave of thermal cameras, one needs a sufficient industrial scale of production to be remotely competitive in terms of the production cost. A thermal camera in China might competitively cost £500 to £600. The equivalent in Europe or the US would cost £3,000. If you are submitting a bid for a UK tender and trying to decide which of those components you should put in your bill of materials, you need to decide what is going to win you that bid. I am still seeing a lack of evaluation criteria which reward sovereign resilience and a big emphasis on value for money. Invariably, it comes down to who has got the best price.

There is an opportunity for clarifying questions in most competitive tenders. Over the last year, I have seen multiple questions to the effect of, “Is it okay to have a Chinese camera or motor?” Invariably, the answer comes back that it is not forbidden or prohibited. This does not incentivise prioritising sovereign procurement. To drive competitive pricing for those materials at an industrial scale, we will need volume: at least 1,000 drones a month over a 12-month to 18-month period—ideally, it would be longer—and probably more like 10,000 units a month. The notion of always-on production is referred to in the strategic defence review in relation to munitions. If you took the same approach with drones, it is not beyond the wit of man to create these critical components in a UK-first manner. It just requires significant investment up front to get there.

To give another very specific example, last year there was consideration by an investor of firing up a rare earth refinery—some of this motor material that I was referring to—in Sheffield. They were picking between the UK and the US, and they decided that, due to US government subsidies, it was a more attractive investment to set up those materials in the US. So we are now able to obtain motors that are non-Chinese, which are still a rare beast in the industry. It is not just where you wind and assemble the materials; it goes down to where the US-refined stuff comes out of the ground. That capability does not exist in the UK.

Lord Udney-Lister: So is Donald Trump right that sourcing those minerals is the great battle between the US and China?

Tom Redman: I certainly think that is a critical part of being able to sustain, in a non-disruptive way, always-on production at the scale that a war would require. The Ukraine conflict is obviously consuming the largest number of drones in the world by far: tens of thousands per month, and something like 7 million drones this year. That type of demand creates a huge strain on the supply chain, and most of this comes from China. If tariffs were introduced, or if there were a decision at a government level to stop supplying those rare earth materials, the Ukrainians would very quickly run out of materials to make their drones. It would take a very long time to spin up the capability to replace those materials.

Lord Udney-Lister: I have a slightly supplementary question on a different topic. I am sorry that it is to you again, because you raised it. On your comment about working capital, that was the world I was in, and I would not invest in your business if I could not see working capital coming through the door on a regular basis. What is the banking attitude or the attitude of the financiers towards investing in a business such as yours?

Tom Redman: We approached a number of banks and we approached invoice debt factoring, because there were four contracts. It is a nice problem: we have a contract and we are delivering on it. If it is one contract and your customer says, "I'm not paying you until the end of the contract" but your supply chain requires payment up front, you have this profile where there is a bit of a dip but it is all good at the end. If you have four contracts at the same time doing the same thing, the dip is a lot bigger and the ending point is higher.

You would think that you could approach a bank or various facilities to deliver on MoD deals. You would think that there would be some cost associated with it but it would be a reasonably frictionless process. The feedback we got from commercial banks was that we have one customer for these deals, which is the MoD—all four of them were with different parts of the MoD—and there was a feeling of high concentration of risk. The most that we could receive in advance from a debt-factoring facility was £100,000, which did not touch the sides. So we were really looking at investor support, and we were lucky enough that our investors took a long-term view on this and could see that we had delivered on projects

like this in the past. Without understanding investors, we would have been in a position where we might have turned down those contracts and said, "Let's do this in a sustainable way. Let's pick the best contract and decline the rest".

The Chair: I would like to get through the questions we have. You will see *Hansard* at the end and you can say anything you would have liked to have said. This is not the end of the process.

Q28 **Lord Teverson:** One of the things that has become very clear is that, in any sort of war, you probably get through consumables—munitions, drones and whatever else—in the first week at the rate it goes. You mentioned the drones used in Ukraine in 2024. I looked it up and I think it was 1.5 million, and it is now 9 million a year. So we come down to a fundamental question: does our industrial sector have the ability to supply sufficient drones in this case—and the same must be true of more standard and traditional munitions—over a sustained period of war? What level of always-on capacity is needed? The production lines of the past no longer exist, and this is probably even more the case with things such as sophisticated missiles. How do we make sure we get around that issue?

As you said, it sounds like the hardware is not necessarily perishable, so the storage is not such a big issue, if you like. But there is an issue around the software, the applications and what they carry. Can you enlarge on that?

Jon Parker: It is about the fear of buying something that is then suddenly out of date. Can the UK industrial complex provide the number of effects that will be burned through at the rate of expenditure that a peer-on-peer adversary war will need? The answer is yes. Relax—the UK will be able to supply that sort of rate of expenditure, but it requires an always-on demand signal. When there is an always-on contract, that does not mean that there is always money. It means, "We have already contracted with you and, when we need them, we'll tell you". That is not always-on.

The supply chain needs to be pump-primed. We always need the supply chain ahead of the demand signal. That means that we have to have visibility of the demand signal and an understanding that what we supply may be out of date today but we are on a route map to updating it.

If you are on an innovation cycle that is aggressive and accelerative, you can stay ahead of the enemy's innovation OODA loop encounters. If you are doing that, you need a supply chain that can also adapt, and that supply chain has to be here. It cannot be overseas because the supply lines of communication will have been broken or at least stressed. An always-on contract is multifaceted. It is always on for you and always on for your supply chain, but your supply chain has to be as agile as the OEM. As that platform gets challenged—whether it is a communications waveform challenge or whether the aircraft is not able to navigate because of changes to the GNSS jamming environment, and you are having to put new pieces of equipment in—that innovation cycle is less

than six weeks, which means that your supply chain has to have the same mindset. It cannot have the same mindset if it has not got an always-on contract.

The always-on contract has to flow and has to cascade all the way down through industry. That means that the senior responsible officers will be taking some risk, which is difficult. You might get a contract you have 100% confidence in today and then, in six weeks' time, what you have just bought has been countered. There is no point buying something unless that operator and the vendor are working together to lead-turn the threat and the counter to the platform that you are supplying.

You need an open architecture and model-based systems engineering—things that are just coming to the fore now. Britain is actually ahead in this. We have some really good ideas for open architecture frameworks, and we have some very good certification and regulatory compliance methodologies that others do not have. If anybody can do it, it is actually the UK. But we should do it with British companies because those are the only ones that will be here when we have to innovate at the speed of relevance and get this equipment to our warfighters, so that they never have something substandard.

Yes is the answer; we could supply in enough numbers. Remember: the stocks have traditionally been calculated on standard scenarios. Those scenarios are not exactly real world—they are a bit hypothetical. Take the example of Storm Shadow. I cannot talk about the numbers for obvious reasons, but let us say Storm Shadow was procured at a certain volume. Then the peace dividend—which we have now spent, by the way—reduced that number by, let us say, 50%. Then a big amount of the missiles is given to another nation, because it needs them and it is actually in our interest so to do. Now we are left with a very small stockpile, but nobody has pump-primed the supply chain. Now we have to innovate a new idea—probably Project Brakestop, which is a great, innovative, ground-breaking methodology from the MoD—but there is only one of those programmes, so we have to rethink the whole thing.

Lord Teverson: Could you tell me what an always-on contract would actually look like? What are its heads of terms and what makes it work?

Jon Parker: I would say that you buy today's equipment and buy an innovative cycle. You agree on what the next cycle might look like and allow the money to flow straight away, for that iterative six-week cycle. The MoD would have to buy into the innovation cycle and work together to steer that company in that direction of travel on requirements. We have to break our addiction to requirements: by the time they are written, they are out of date anyway. If you have not written it in six weeks, why did you write it? It would be out of date. We need to think in a different way.

The warfighter will have more cognition of what is needed than the MoD in some of these instances, so we need feedback from the front line and the front line talking to the manufacturer: "I need this. This doesn't work.

This works well, but I'd like it this way". If you do it back through the system, it would take two years. But we can talk directly to the warfighter and say, "What is it that you need? What is the reach-to weapon and what do you need from it? I will change it now". Then the MoD will pick up the bill later.

Lord Teverson: You talked about peer-to-peer warfare. If there is peer-to-peer warfare—all this needs a supply—your sites will be one of the main targets. Do you work with the Government? At the moment, our production facilities are defenceless, are they not? Do you talk to the Government about that?

Jon Parker: We have thought about this and there is no point talking to the Government about our company and its site holdings. We already have a plan: yes, we are moving into Swindon; yes, we are taking a factory of 260,000 square feet. But we will not be there in wartime. We will take the lessons of the Second World War from the Mosquito and other manufacturing capabilities, and we will distribute it—still in the region but having moved to old DFS warehouses and old Toys R Us warehouses. We will not be there and we will announce that we are not there so that the old site is not a target, but we will manufacture and distribute. Everything that is going into our robotic factory is distributable. It can be removed and moved to different areas, so a section of the factory will create one capability that can then be delivered to assembly works somewhere else.

Lord Teverson: That is very reassuring. I—

The Chair: We have a couple more questions, and we are now really out of time; I am really sorry.

Q29 **Lord Camoys:** I would like to talk about defence growth deals and the work that the Government have begun to do with devolved Administrations and mayoral and local authorities to support regional defence industries—things like the Plan for Barrow partnership and, probably most connected to yourselves, the support that Swindon Council has been giving to create a drone and defence technology cluster. I would be interested in your experiences and thoughts on those but, in particular, what support you would like to see the Government provide to devolved and local authorities to support regional defence industries. What do these deals need to provide to be a success for SMEs like you?

Graham Booth: I will be very quick on the first part of that. The value of them, if I understand right, is about £250 million over five years across five areas. When you divide it out, that is not much money. We have talked about not quite skimming the surface, but that is a rounding error on a rounding error on a rounding error: it is such a small amount of money that it is very hard for it to be meaningful. My honest view of previous announcements like that is that a large amount of that money will go into the local government's administrative side so, out of the £5 million per annum to each one, the amount that actually flows into the hands of SMEs will possibly be tens, maybe hundreds, of thousands of

pounds, at the most, across them all. Those numbers are just too insignificant for them to work. That is my fundamental concern: it is a rounding error on a rounding error.

Jon Parker: Regional authorities are a postcode lottery. Certain areas are anti defence; they find it a dirty word. Others have embraced it. Will Stone MP has done an amazing job, as has Swindon Borough Council. I have never heard them talk politics: I have only ever heard them talk about the people of Swindon. That is the reason we are going; it is because of their vision. The regional authority there is the reason that we are going there.

I would like to see investment in suitably qualified and experienced personnel, training and apprenticeships. We are going to pay for them, but we would like to be able to influence that training, to see what it looks like and to make sure that we get the skills that we need. The MP, Will Stone, has already set up a defence excellence committee for the people—the companies—that are going into Swindon. That is an amazing, forward-leaning initiative about what defence needs from Swindon. It is not a “take”; it is about what we can give. That is revolutionary; we have never seen it before. It is great, but I agree with my colleague that they will not have enough money to help us financially. Instead, they can give us better access to energy or better access to the internet.

Lord Camoys: Are you seeing that?

Jon Parker: No, but that is what they need to start concentrating on now. It is not about the money spent, but about whether they can give me preferential business rates for a holiday period or something. Can they allow us some headroom before the bureaucracy starts? We just need a clear run at getting the nation ready for the future.

Lord Camoys: Does that connect to issues with planning for new facilities?

Jon Parker: Not at Swindon.

Lord Camoys: What about other places?

Jon Parker: I have not tried in other places. Well, I did try in Leeds, and I was shouting into the wind, but in Swindon they get it. They are on board. They come to us with ideas; we do not have to ask for much because they are so forward-leaning. It is why it is going to be a success and why others should copy that model.

Q30 **Lord Fuller:** You will be pleased to know that I am going to be brief. Jon, you said something very positive in the way that we have a very good regulatory environment; it is platform-based and sort of world-leading. I would like to know particularly about the really good bits that we are doing that others are not, with practical examples of what is working. You were very positive. Is that optimism shared by both Graham and Tom, or do you have a different worldview? I will take Jon first.

Jon Parker: We have an excellent working relationship with the CAA, but especially with the MAA—the Military Aviation Authority. It is open to ambitious new ideas. A comment I heard from one of their senior commanders to me at the USC opening was, “Let’s try it. That sounds cool”. I have never heard that from a regulator. Being the first to regulate is not something to be proud of, but these guys now get it. Things have to change.

Now, my company is lucky, because we do open architecture frameworks and certification models using model-based systems engineering, so we have a clear understanding of how we want our aircraft to be certified. The risk that other regulators assume is based on manned aviation experience; they have experience of only the manned world, so they imprint those ideas back into our framework. We do not have anybody sitting in our aircraft. Our risks are third-party.

It is different for weapons assurance; that we cannot get wrong. Without weapons assurance, we will hurt our own people as they load weapons, as they handle misfires and all those things. We have to get that absolutely right, so there are no shortcuts there; I will give you that. In terms of permissions to let people go flying and places to test, the MAA is so forward-leaning that I do not see it as a risk. I think it is part of the solution and certainly not part of the problem.

Lord Fuller: That was drones; Graham, you have a different sphere of influence.

Graham Booth: We are really a software only company, so we supply to other people doing things. One of the related challenges is more about test facilities. Most of the testing that we see in the UK, particularly when it comes to comms systems, are tests with GPS turned on and all working perfectly well. They work with comms over 20 metres or 200 metres away from where you launch. The real world is nothing like that, so what we lack in the country is realistic test ranges and the ability to test in areas where you might have denied navigation or active adversaries jamming, et cetera, because of the nature of the country, and the size. We really struggle with that. So much of our regulatory framework regulates for doing things in a nice, safe way, which I get, and it is important, but we are not testing in anything like a real-world environment, so the first opportunity for a lot of things to be tested in the real world would be in the real world, and that is not really the environment we want to get to.

Tom Redman: It took us an hour and a half, but we finally got a split decision on this one. We frequently encounter difficulties getting the necessary approvals to conduct the type of testing that we think is required. Where we struggle is around some of the areas that Graham was referring to. Actively jamming GPS is quite hard in the UK, as is radio jamming. Beyond visual line-of-sight operations, where you cannot see the drone any more and you still want to conduct operations, and multisystem autonomous operations—swarming; some of you may know it under that term—we will quite often be required to test overseas. It is

just too hard and, similarly to procurement, there are a lot of reasons to say no and manage risk. That is not a slight on the CAA or the MAA, if their mandate is to make sure that drone operations are safe and in line with legislation.

Lord Fuller: For the examples you gave, where do you go?

Tom Redman: Ukraine, and other centres of excellence. Latvia is another one.

Lord Fuller: They are equally crowded, are they not?

Tom Redman: It is easy to obtain access to facilities in those locations where you can run active testing and not require the level of approval process which may or may not result in you being granted access. Swarming is going to need to be actively tested. This is a problem for the CAA and the MAA because you are taking the human out of the loop of having a one-to-one operation of a drone, and you are having a one-to-many. Then you are introducing software and autonomous behaviours. In our example, it could be doing a sweep of a field with multiple drones looking at whether there are any people or vehicles to be aware of before your soldiers move into that area. To test that in a safe way in the UK is extremely difficult. What ends up happening is you can slow down that iterative loop.

We do welcome the opening of the Uncrewed Systems Centre. That is in Swindon, and I echo the points on Will Stone and Brigadier Stu Nasse being really supportive of this. But it is part of the puzzle because it is an indoor facility, and a lot of the things that I am talking about require a lot more space. Really, you need an outdoor corridor—a bit of a playground to simulate a contested wartime environment. You need to train how you mean to fight. What we are ending up doing is taking a lot of that expertise and learning, and putting it in a different location overseas. We really need to drive more of those designated innovation test environments that are in line with warfighting experiments here in the UK.

Lord Fuller: Would it help if places like Salisbury, STANTA³ or Brecon were available?

Jon Parker: It would, but there is a spillover effect. If you jam GPS, nobody in the local area can navigate their cars.

Lord Fuller: It is like that in Norfolk anyway.

The Chair: One of my colleagues could do one supplementary. No?

That has been absolutely fascinating. As I said earlier, please do not think this is the end. There will be things that you have picked up from our questions that we are really interested in and need some answers. Feel free to give us some evidence on that. What you have done today has

³ STANTA is short for the Stanford Training Area, a Ministry of Defence site in Norfolk.

been enormously useful to the work we are doing. Thank you all very much. Please get back to work, because I think we need what you three do. That ends this session.