HOUSE OF LORDS

International Relations and Defence Committee

Corrected oral evidence: Implications of the war in Ukraine for UK defence

Wednesday 27 March 2024

10.40 am

Watch the meeting

Members present: Lord Ashton of Hyde (The Chair); Lord Alderdice; Lord Bruce of Bennachie; Baroness Coussins; Baroness Crawley; Baroness Fraser of Craigmaddie; Lord Grocott; Lord Houghton of Richmond; Lord Soames of Fletching; Lord Wood of Anfield.

Evidence Session No. 3 Heard in Public Questions 20 - 30

Witnesses

I: Dr Marc DeVore, Senior Lecturer, University of St Andrews; Tim Lawrenson, Associate Fellow, International Institute for Strategic Studies; Air Marshal (retd) Edward Stringer, Senior Fellow, Policy Exchange.

Examination of witnesses

Dr Marc DeVore, Tim Lawrenson and Edward Stringer.

Q20 **The Chair:** Air Marshal Stringer, Dr DeVore and Mr Lawrenson, thank you very much for coming. This session will focus on the lessons from Ukraine for defence procurement and production. It is the committee's third public evidence session of its short inquiry into the implications of the war in Ukraine for UK defence. It will be streamed live on the Parliament website and a transcript will be taken. When it is available, we will send all of you a copy so that you can make small corrections if necessary.

I remind members to declare any interests they have that are pertinent to the inquiry. I should mention in that context that my wife is a shareholder in BAE Systems.

I ask the witnesses to introduce themselves briefly when they answer their first question. We have three witnesses today and quite a lot to get through, so do not feel the need to answer every question if it has all been said before. We will try to keep our questions brief, succinct and to the point. It would be great if you could do the same; then we will get through this quickly.

There is nothing new about problems for defence and military procurement. We have seen a lot of those problems before and shortages have existed in periods of conflict. In your view, what are the most acute challenges for European military production that have been exposed specifically by the war in Ukraine? I will start with Mr Lawrenson.

Tim Lawrenson: I am an associate fellow at the IISS, the International Institute for Strategic Studies. I have been an independent consultant from 2021 onwards, but prior to that I worked in the defence industry for about 34 years, latterly at BAE Systems, where I focused on European issues. For the last seven years of that, I was based in Brussels, looking primarily at what the EU was planning to do on defence industrial efforts. Therefore, I would like to take an industrialist's angle on this question and not look specifically at the operational capability aspects, which I suspect the other witnesses will be better placed to answer.

There are two angles here. One is Ukraine itself and support for Ukraine, and the second is Europe's own security. The two are similar but slightly different, and both depend on the assumptions you make, one of which is what the US stance will be on supporting Ukraine in the near term. Of course, we know that the Bill is still blocked in Congress. The second is the perceived risk that Russia would test NATO. That is where we get into the European security side of things.

From an industry perspective, the main issue exposed was that we were not prepared for a high-intensity, long-term war. That was not the planning assumption that we were making. We have had 30 years since the end of the Cold War in which defence budgets have declined drastically across Europe. Quite naturally, the industry followed suit. It has declined to a much smaller capacity than it had, as the peace dividend was taken. Many elements of the industry are quite small now,

and some are kept going on a shoestring, slow pedalling just to keep them going. Exports, to a certain extent, have helped sustain parts of the industry. In a sense, that underlines the importance of exports and why the industry is so keen to ensure that exports are supported, but it remains small.

On the MoD side, the procurement system is similar in that it is not culturally set up for the situation we are in. We are unable to do things as rapidly as we might want to, even if the capacity was there to do it. As a result of that, the many announcements that you hear across Europe and in the UK about intentions to do things, or speeches about buying new items of equipment, tend not to be followed very quickly by contracts.

There has perhaps been more activity in ammunition of late. That has had a lot of focus across Europe, which is perhaps one good news story coming in the next 12 months or so, but there is not much elsewhere. The system is still adjusting, like a supertanker, to how to deal with this.

How quickly can the industry adjust and ramp up? From this lower basepoint, it takes time. You are starting from a low base, and not just in the areas that you tend to think of—the end prime contractor assembly lines. The entire supply chain needs to ramp up. It is not just about factories and machinery; it is about trained people. Like any industry, we operate in a competitive employment market, so you see challenges in getting the right people and training them up to do what needs to be done.

That, inevitably, is going to take time, and then you face challenges in getting hold of the essential bits—the chips and some of the materials. What you have seen in Europe, from the perspective of addressing this issue, is significant buying from outside Europe. The EU published a figure of 78% of procurement by EU countries since the start of the Ukraine war being outside of the EU, of which 63% was from the US. There are many reasons for that, not least that there was availability to get the capabilities deemed to be needed quickly, but that has an effect on the industry as well. Everything spent elsewhere is an opportunity missed to put more work into the European industry.

We will come on to this later, but the idea of doing more collectively has been doing the rounds for more years than I can remember. Every time one big country goes and buys something from elsewhere, you have taken away one of the bigger potential partners in that European collective approach. That raises its own challenges.

There are a number of issues in the round. I have not gone into specific military capabilities, which some of the other witnesses can do.

Edward Stringer: Good morning. Up to about two and a half years ago, I was director-general of joint force development—the person looking across the UK military at the future of warfare and where it was going. That is why I am in Ukraine at the moment.

Before that, I spent two and a half years as the MoD's director of operations. Even then, on behalf of the Chief of the Defence Staff, I had

to ration weapons consumption for the limited operations against Daesh in Syria and Iraq. The writing was on the wall 10 years ago, so what we are experiencing now should not have surprised us.

Probably my only other job of relevance was 15 years ago as a commandant of the Air and Space Warfare Centre. I owned the Defence Electronic Warfare Centre, and we were fighting battles then to keep the investment in electronic warfare when the system seemed to think all wars would be among people in places such as Afghanistan and Iraq. Of course, we now see a high-end conventional war here in Europe.

To answer your question, a lot has been covered by the first witness. If you want to feed a starving man, you send him food, not extra cutlery. By analogy, we, in a defence sense, have been sending cutlery to Ukraine. Tanks and guns are all just delivery systems; the food equivalent here is the ammunition. That is the thing that they need, the thing that does the damage, and the thing that we have not invested in since 1989.

We have spent a lot on quite exquisite high-end platforms, but wars, as we are seeing now, are not jousts between exquisitely equipped champions who come to the jousting arena with all that they need. Wars, in the end, are competitions between states in production, and evolving winning propositions more quickly than the opposition.

If you look across Europe, part of the problem is that each country has its own champion, and it sponsors that champion. I could not track down the exact figure, but this is near enough to show the idea. If you measure the number of major weapons systems the US owns, it is in about the high 30s. If you go across Europe, it is over 140. Everybody is procuring one or two of some quite expensive stuff. That is very unwieldy, and it is very difficult to pull all that together and fight a conflict with it. At the moment, just the 155-millimetre guns we have given to Ukraine require 10 different types of ammunition. That is 10 different supply chains. You can see the problem that would be for the European pillar of NATO if it were to operate in a similar way.

On the shortfalls, it is again basic ammunition. We have seen this before in World War One, with the shell crisis of 1915. All wars take us by surprise in that their consumption rates are greater than we had imagined. When we buy very precise weapons, those are akin, in some ways, to buying platforms. Once we have bought them—I am thinking of Storm Shadow—we shut down the production line, so it is difficult to replace the magazine. That is true across Europe. If everybody is buying their own version of something, all those production lines get shut down. Maybe we will come back to that under solutions in one of your later questions.

The other thing that comes out of this goes back to that thought about competitions. Although you have to rapidly evolve winning propositions, it still takes us and our European partners decades and hundreds of millions of pounds to procure things such as drones, when what we are seeing in Ukraine at the moment is that you need to take weeks to procure

something that is better than what the Russians are doing. You need to buy that for a couple of thousand pounds each. It is the capacity to rapidly innovate a drone farm that you need to invest in, rather than one or two high-end examples of what you consider to be the perfect drone, which you then keep on a shelf. There are quite a few areas that it is well worth your while considering.

Dr Marc DeVore: I would second everything that my colleagues have just said. I am a senior lecturer at the University of St Andrews. I co-authored a book that was assigned reading for comptrollers at the Pentagon, and have advised the South Korean, Swiss, and other ministries of defence on their defence industrial politics. At the moment, I am an RA fellow advising the Foreign Office, but everything that I say here is in my academic capacity; it has not been approved and will not engage with anything that that entity does.

I would, in essence, agree with everything that my colleagues have said. I would like to add five elements to it. First, this war is a war that breaks with the tradition as to what we have seen in the recent past. Only three wars since 1945 have been high-intensity, conventional wars and exceeded 90 days. Since 1945, we have mostly seen either long insurgencies or civil wars, or very short, high-intensity wars. It is natural in some ways that, with this, we are experiencing different defence industrial dynamics from which we are accustomed. As a result of that, we are learning that there are at least four major shortcomings with how our defence industrial bases have been managed and with our approaches to them.

The first is that we do not design weapons for production. A lot of our weapons, as we have seen with this war, are absolutely brilliant in terms of performance but, if we ask about their producibility, oftentimes we discover industrial processes or components which mean that we can produce tens or dozens in a month. Storm Shadow is absolutely amazing, but we cannot produce nearly enough of it, because it was not designed for rapid production.

Secondly, we have learned that our defence industries, both in the UK and in Europe, are exceptionally risk averse. I was in South Korea two weeks ago. Poongsan and Hanwha, the two major South Korean companies that produce ammunition, based entirely on corporate assessments of the international market, decided to raise the capital on capital markets to double their ammunition production for 2025. In contrast, a lot of British and European defence industries want 10-year contracts and subsidised machine tools. That has rammed home the fact that our defence industries have gotten used to a very close relationship with Government. That also means a relationship where they do not read signals from the market or the international environment and take on risk themselves.

My third point is something that Ed mentioned and I would second. We are in Ukraine, and we are learning that the innovation and adaptation cycles here are occurring so rapidly that a lot of weapons that were tactically decisive a year ago are now virtually useless. In a high-intensity

conventional war involving countries with substantial engineering, scientific and technical capabilities, weapons are oftentimes countered by adversary capabilities, and things such as the Turkish Bayraktar drones or American Excalibur artillery ammunition, which at one point were winning battles, have now become virtually useless. Our defence industries are not used to those types of rapid feedback loops.

Fourthly and finally, European defence industries have ignored ground power, land power, and land systems. Statistically, about 70% of what Britain and Europe produce and export in terms of weapons systems are aerospace systems. If we want those to be useful in this war, we ought to think about providing more when it comes to aerospace systems. However, if we think that ground and land weapons systems are more important for the future, we have to put our money where we are seeing the military environment move.

The Chair: Thank you very much. We will have to move a bit more quickly if we are going to get through all this. Lady Fraser, some of your question has been addressed, but there are bits that have not.

Q21 **Baroness Fraser of Craigmaddie:** We have had a very good analysis of what the bottlenecks and problems are. Having realised that, have the UK and our European allies moved? If they have not, what should they do? What should we be doing to unblock some of these blockages in the short term?

Edward Stringer: No, we have not moved quickly enough. The problem is that we have not seen this as a strategic inflection point. In the UK and across our European partners, we have tried to sweat the current machinery. We have looked at business as usual and tried to shift every dial as far as we can to the right, but what we are looking at is a complete change in the strategic backdrop and, therefore, the necessary response. It would be fatuous to say that it would be great to go back two years. We cannot, but we have to make that leap of strategic imagination. There are two things that we should be doing.

One is crash production into building bigger factories. This war has been going on for more than two years now. The American involvement in the Second World War was only three and a half years from 7 December 1941 onwards, and look at what it did in moving from the position it was in, with a militia, quite a large navy and very little air force, to being a nuclear power three and a half years later with 16 million people mobilised. We are not moving very quickly at the moment, yet we tell everybody we are in an age when everything happens incredibly fast and no one can keep up.

We want to build something that is sustainable. It cropped up in the discussion earlier that we have political partners in the Joint Expeditionary Force who are further east than we are and absolutely feel the threat. They have moved more quickly than we have and more quickly than some of the larger powers in Europe. My discussions suggest that they would be very amenable to burden sharing with us.

We could therefore mobilise those 10 nations of the Joint Expeditionary

Force to look at how we come up with a sustained industrial base. If we get that right and we burden share across those 10 nations, this will be a great example for NATO and EU nations that are going to have to do the same thing.

Dr Marc DeVore: I agree vigorously with everything that Ed said. When our defence industries have championed increasing ammunition production by eightfold or stats like that, oftentimes they are simply putting more shifts on to the existing machinery, and they are starting from a very low baseline.

Very few European arms manufacturers have invested money in new machine tools and setting up new production lines. For example, the BAE Systems eightfold increase in artillery ammunition is just running the same machines. The aggregate of what we are producing is still very low. Rheinmetall is perhaps the only exception in continental Europe, as a company that has invested in new plant and new machine tools, as well as the South Koreans, as I just mentioned, in terms of the business case.

When evaluating what is being done, we need to pay attention to the investments that companies are making in actual productive capacity, and we ought to be collaborating across the JEF.

Tim Lawrenson: I have a slightly different view on the extent of the industry effort than perhaps the second speaker there.

Baroness Fraser of Craigmaddie: Can you also speak about the industry's appetite for risk?

Tim Lawrenson: Yes, I will come to that. Looking across Europe, as Mr DeVore said, probably the biggest player that has invested significantly is Rheinmetall. The figure it has published on where it thinks it will get to by next year is production of 700,000 rounds per year from a start of 70,000 pre-war. But Rheinmetall is not the only one. Saab is saying that it will have quadrupled by 2025 to reach 400,000, and Nammo, the Norwegian-Finnish producer, is saying it will at least double its capacity to something like 200,000 per year. At least some of these involve investment. Indeed, even the BAE Systems eightfold increase involves some investment, not least in a new explosives facility.

On the ammunition side, there is a genuine increase. The EU's figures said that it was producing about 400,000 pre-war. It claims to be at 1 million now and that it should be at 1.4 million by the end of this year and 2 million next year. These are serious increases, which do not come just from putting more shifts on.

Q22 **Baroness Crawley:** We have touched in some detail now on the progress that the Government have made to replace stocks of ammunition. Looking at our briefing notes, the Estonian Ministry of Defence estimates that Ukraine requires a minimum of 200,000 rounds per month to retain local fire superiority, and it argues that, to meet Ukraine's minimum demand rate for ammunition by 2025, European production must increase by 140% over the course of this year. Is that possible, and is it desirable?

Tim Lawrenson: I suppose that is the sort of figure that is being targeted. If they get to over 2 million next year from 1 million now, that is an 100% increase from where we are, but the issue is the US no longer supplying. That was not built into the assumptions when some of these plans were made. Whether it is enough is a different question, and that comes down to military planners. What is the goal here for Ukraine? Are we intent on ensuring that Ukraine can hold the line and then go on the offensive? That is what determines the extent to which you go beyond where we are.

The Chair: There is something I am not clear about. You mentioned some areas, for example ammunition, where production has increased quite dramatically. First, are the Government using that and buying what is required? Secondly, are they buying enough?

Tim Lawrenson: When you say the Government, I guess you mean the UK.

The Chair: Let us start with them. Our job is to advise the Government and hold them to account.

Tim Lawrenson: Again, it comes down to what the planning assumption is and what you are trying to achieve. An eightfold increase sounds significant, but in UK terms, based on the most publicly available information, it probably means somewhere between 100,000 and 200,000 rounds of production in the UK.

Baroness Crawley: Is that per month?

Tim Lawrenson: No, that is per year.

The Chair: If we are talking about at least two different public scenarios where our entire stocks would be used up in a week, that does not sound like enough to me.

Tim Lawrenson: Exactly. It comes down to what objective the Government are setting and to what extent the UK should be delivering on that. It is obviously more than just the UK, but it does not sound like enough across the board yet. Whether it will be enough by next year depends on where the war is then.

The other thing the EU has done is to put in place a programme called ASAP, which is basically a €500 million subsidy for building greater capacity across Europe. It was very rapidly put in place. The winners of the funding have already been announced, and it will go across the entire supply chain in Europe to build EU capacity. There are some significant moves afoot. Is it enough? Is it quick enough? That is another question.

The Chair: Perhaps Air Marshal Stringer could answer that question. Is it enough?

Edward Stringer: No, it is not enough. You still have to change the incentives within the Ministry of Defence. Post Levene[1], the services are

chasing the equipment that furnishes the front line in peacetime, and the equipment they use for exercises and training. They are not responsible, except tangentially, for fighting the next war. We have to start to organise the MoD around its function of being a military strategic headquarters, with accountable figures who, come day one of the war, would look very shamefaced if our ammunition stocks would run out in a week, as you have just described.

We used to talk about this on exercises. I remember a high-end Air Force exercise. All the tyro fighter pilots were enjoying themselves on the third day after a great mission, and we said, "You just shot out the entire stock of air-to-air missiles that we have. What are we going to do now?"

There has always been a thought that the arsenal of democracy across the Atlantic was pretty bottomless, and that in wartime the Americans would just provide. No one ran the numbers on that. In fact, the US has been disinvesting, albeit not quite at the same rate. It cannot meet its own needs, so Europe is going to have to think about this and step up.

This is where I come back to burden sharing. Rather than just rushing to build, say, a 155-millimetre plant, we should ask what types of ammunition and weapons system we produce best. It might be that they are some of those high-end air-to-air missiles, which we agree to furnish across Europe. In return, we will take from others some of the simpler munitions that they are literally best placed, geographically, to produce. If we are worried about Russia and we want to produce 155-millimetre shells, let us produce them in Estonia, Finland, and Poland, close to where they would actually be needed. There needs to be a little more imagination here and some realistic war planning from the MoD, from a military strategic headquarters that would be held to account for its readiness.

The final point on this is that we are still throwing stuff away. I was on the Air Force board just over 10 years ago that considered getting rid of some Storm Shadow missiles because, with resource accounting and the costs of storage, and given what we were expected to be able to do under defence planning assumptions, you could make a case—and it made sense—to get rid of weapons we had already bought. If that is a legitimate line of discussion, I suggest that we have been asking the wrong questions and we need to revise the question set.

Dr Marc DeVore: The 1.2 million that has been cited should be viewed as a bare minimum. Based on last year's public figures, Russia fired approximately 6 million artillery shells. The Ukrainian Ministry of Defence estimates its own annual ammunition needs at 2.5 million rounds a year. The 1.2 million can be regarded as something of a floor that may adequately allow the Ukrainians to defend themselves, but that is budgeting for the Ukrainians to fire one round of artillery for every five that the Russians fire, so it is also assuming quite a bit of efficiency.

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[1] The MoD published an independent report on defence reform in 2011, led by Lord Levene of Portsoken.

If the Americans cannot continue to manage to support Ukraine with congressional aid, to achieve 1.2 million or 2.5 million is going to require Ukraine's other allies to put forward substantial amounts of money. If we look outside of European production, money could probably buy adequate numbers of artillery shells, whether that is shells from South Korea or Japan to backfill our own needs or purchasing American ammunition to provide to the Ukrainians. If we look outside Europe, there is probably enough excess ammunition production to meet Ukraine's requirements, but that would require raising substantial additional funds for that purpose.

Q23 **Lord Wood of Anfield:** We have touched on this already, because Mr Stringer referred to the ASAP investment of €500 million that the European Commission just announced. I wonder what your thoughts are on the longer-term strategic challenge of building up capacity, moving away from more "just in time" delivery models. That might seem a luxury at the moment, but who is making the most serious progress on this and what are the biggest challenges that need to be addressed in doing that?

Dr Marc DeVore: For long-term capacity investments, we ought to try to develop policies to do, in essence, what Air Marshal Stringer suggested. It makes no sense for each European state, including the United Kingdom, to try to produce the entire gamut of weaponry. If we are thinking long term, we ought to be specialising, finding what our comparative advantages are, producing and exporting those at scale, and purchasing and stockpiling at scale those elements that are not the most efficient to produce ourselves. So there is an issue of economies of scale.

Secondly, if we are thinking about future conflicts that might become protracted, what are the conflicts and what are the weapons systems? If we are thinking about wars with Russia—and we are going to be dealing with a revisionist, dangerous Russia on Europe's doorstep after this war is over—we need to think about land systems, artillery barrels and long-range strike systems. If we are thinking about a war with China, at that point we need to think more about maritime and air systems, and how to have those at scale, because, as with land systems, we do not have the deep stocks or the ability to produce in the quantity that we would need for that conflict.

In short, we need to figure out what our comparative advantages are and collaborate with allies, and we need to figure out what conflict we most need to be prepared for and, therefore, what we need to scale and stockpile.

Tim Lawrenson: I agree with all of that. One of the challenges that the UK will face in achieving that is that we have left the EU; the EU is putting in place all sorts of initiatives, policies, instruments, and money to incentivise the EU industry to do things together. That puts up barriers, frankly, between the EU industry and the UK. The idea of specialising in the UK on something and then selling it to the EU as a UK product is probably going to be more challenging in future. Similarly, for co-operating on joint programmes to develop things, some of the rules that

have been put in place for those EU instruments are, frankly, really difficult to see a way around.

That is a new challenge that has appeared in the last 10 years and has not been addressed. It has been allowed to continue. It is one of those areas where you would think a war in Ukraine on Europe's borders would have changed the mindset enough to start trying to address that, but it has not happened yet, and it needs to.

In terms of where we are in replacing the "just in time" approach that we have now with something more long term, we are nowhere yet. We are still in firefighting mode. We are still very focused on one or two areas such as ammunition. Not much has happened in many of the other areas you would need in a long-term, high-intensity warfare scenario.

One area that I know a little about, but not in detail, is the missiles industry, where the European champion, MBDA, is transnational and has a UK footprint as well. The EU has thrown up some interesting challenges to operating that model.

There is a lot of investment. You asked me earlier about the risk appetite. There is a lot of company money going into building capacity, taking on new employees, et cetera. However, there have been far fewer contracts. It is all being done at risk at this point, waiting and anticipating that there will be contracts. It is probably a fair assumption, given that we are talking about missiles that are likely to be seen as essential in the coming years. The numbers that we need to build and hold in stock will increase, so that part of the industry is probably in a less risk-averse position than some others.

It is fair to say that, for those parts of the industry that are closer to the front line, in general you have seen governments commit to significant increases in defence budgets, in some cases almost doubling them, at least in commitment terms. The willingness of the industry there to invest at risk is higher, whereas the further west you get, the more there is a question: "Will this be sustained?"

We have been here before. We have seen governments make lots of announcements and then, when things come to an end and the war is frozen or stopped, suddenly all those things are cancelled or do not go ahead. Naturally, industry is investing, but it is not just throwing everything at it on the basis that we have been burned before. I guess that would be the mindset.

Edward Stringer: There have been NATO initiatives, announced at Vilnius 18 months after the war started. That was the NATO defence production action plan. The associated defence industrial production board, which was going to be the executive element, did not meet until December last year. People tell me that a lot of the initial political impetus from Vilnius has dissipated.

This added to my opening remarks that we are drifting back into business as usual. Although NATO is doing more, should it be NATO or should it be the EU that leads on this, given all the elements of industrial policy that

must follow, such as education, skills, and all that? You have my spectrum of a brand-new strategic paradigm and business as usual from before Ukraine. As I say, there is more, but it is still pretty much on that end of the spectrum.

Q24 **Baroness Coussins:** To follow on from the last question, what steps would you recommend that governments, including the UK Government, take to improve joint or co-ordinated defence procurement, both within Europe and between NATO members? How can this be done? Could it be done in a way that confronts and overcomes the obstacles, notably the absence of standardisation in weapons systems, which you have all alluded to already in previous answers? Do you think that the addition of Sweden and Finland to NATO has made the prospects of joint procurement easier or more complex?

Edward Stringer: The standardisation point is absolutely key. You have sat next to you a very senior general who knows about the importance of logistics in wartime. If you are trying to get 10 different types of 155-millimetre shell forward, you have created an absolute logistical logjam for yourself. We could start that standardisation process across the Joint Expeditionary Force, and we could get things moving very quickly, given the political statements that those countries have made, not least Sweden and Finland.

Finland has been a model for a long time, but one we have tended to overlook because it is not a mirror image of ours. It has only 21,000 regular members of its armed forces, but it can put 300,000 troops in the field tonight, fully equipped, with the second-biggest artillery park in Europe after Russia and with 30 days of high-intensity war stocks, which it has saved up, looked after, and curated over many years. A lot of the technologies we have spoken about already, such as drones, rely on dual-use tech, especially the tech of the information age from Nokia and Ericsson. Finland and Sweden bring some excellent companies in. We already have relationships with Saab in Sweden. These need building on.

You would be better placed to explore this than I am at the moment, but the recent announcement by Macron in France has opened the way to what should be some imaginative diplomacy with the French. I remember in 2016, after the Brexit vote, which we have alluded to in talking about us being out of the EU, the then French Chief of the Defence Staff said in a conversation, "European defence is a nicety. The defence of Europe is a necessity". We need to carve out a different relationship in the defence and security sphere, and it strikes me that the moment will never be better than right now.

Tim Lawrenson: I agree with all of that. The scope is there to do things more together. It is a case of the political will to do it. Air Marshal Stringer alluded earlier to countries that have had a tendency to try to sustain a national industry, or parts of an industry, and do not want to give that up. They see having an industry as important for their autonomous ability to act, but it is also about employment and economics in some cases.

It is about getting over those mindset challenges to say, "We recognise that we shouldn't each be trying to do this alone". It is more efficient to do it together, even if that means that not everyone can be leading or having a large piece of that cake. Similarly, specialisation makes sense. Everyone should not be trying to produce the same sorts of systems in slightly different ways, ending up with non-standardised approaches.

I heard relatively recently from a senior think tanker who was recently part of NATO that one of the challenges with the 155 ammunition is not so much that there are different standards—they are all supposed to follow NATO standards, although in reality some have fully adhered to them and some have not—but that they have not been tested on each of the different gun systems. That testing takes time. They cannot be used because they have not gone through the testing process, because it costs money. Normally, you design and build these things, you have the ammunition that fits them, and you test it on the one that you have. Who is going to spend the money on testing it on the other systems so that they are available across the board? Again, we need a more collective approach.

We need to get over that hurdle that NATO and the EU seem to be somewhat competing with each other. Every time NATO or the EU does something, the other comes up with something that looks suspiciously the same. We need to say that there is a bigger picture here. We need to get beyond that and start breaking down these barriers.

Q25 **Lord Grocott:** A couple of you have mentioned difficulties with the EU. We are talking about defence, and our defence is NATO, not the EU specifically. If there are difficulties in relationships between the UK and the EU that are in any way weakening or causing problems for our defence, that is bad for all of us, presumably. Who is responsible for that and how can you put it right?

Tim Lawrenson: It is right to say that NATO is the body that we look to for our defence, but the defence industry and defence industrial production are a different matter and you need that to feed the machine. But the EU is focused very much on the industrial side.

NATO does some defence industrial things, but it does not spend very much money. It spends money on behalf of the alliance members that put their money into NATO. It has a relatively small budget of its own, which is not spent on some of the things we have been talking about; it is spent more on the glue or the mechanisms that allow operations to come together.

You have a body in the EU that is quite aggressively pursuing a defence industrial strategy. Indeed, it published a defence industrial strategy this month and, for every month that goes by, it adds another initiative or another thing to try to drive the defence industrial capacity of Europe to be much bigger, more efficient, and more co-operative, and indeed to get EU countries to buy from that industry rather than elsewhere.

Unfortunately, it then puts barriers around that. The rules that you see in almost every one of those instruments say, in essence, that third countries are welcome to participate, but only if they accept rules that, frankly, no third country would be able to accept. It just does not work. There is no third-country participation, for example, in the European Defence Fund, which is the biggest current instrument. €8bn Euros, or about 15% of all EU research and development is funded by the European Defence Fund. That instrument, in effect, excludes co-operation with any third country, and the UK is treated just the same as every other third country.

Lord Grocott: That is presumably to the disadvantage of NATO, of which most EU countries are members.

Tim Lawrenson: Yes, I believe it is to the disadvantage of Europe's defence capability overall, and NATO is that vehicle. NATO has been more active. As Mr Stringer said, there is the new defence production action plan and the defence industrial production board, and some significant procurement announcements have been made. About $10 billion worth of procurement has gone through the procurement agency, the NSPA, for Patriot missiles et cetera.

In truth, it has the capacity. It has the knowhow, the people and the systems. It probably would be the logical place to do all this, but it does not have this big budget of its own. The EU is not as yet putting in place big enough budgets to completely change the ecosystem and the way it works, but it is going down a path towards that.

Q26 **Baroness Crawley:** This is about cost. Surely, interoperability will lead to lower costs as well. If we are all making our own specialist ammunition and equipment, that is going to be far more costly than if we partner with other countries in order to reduce those costs. Lord Grocott and I disagree on many EU things, but we both accept that, while NATO has the overall strategy as far as defence of Europe is concerned, there is a role to play for motivating industry to make more ammunition, and to skill up more people to use equipment.

Dr Marc DeVore: I would definitely agree with Mr Lawrenson that the level of ambition in what is being done at the EU level presents a challenge, given that we are on the outside. I would say, though, that there are several institutions that we might be able to leverage or invest in more successfully.

During the Cold War, NATO was very successful at creating interoperability standards, and the EU has still been relatively ineffective at getting into the standards business. Still the most important transatlantic institution when it comes to setting standards is the NATO Standardization Agency, or NATO Standardization Office, which is the name it now goes by.

Since the end of the Cold War, a lot of the high-level attention and emphasis invested in the NSA declined. Therefore, the pressures to build 155 rounds that were compatible with one another or to develop weapons

that could exchange data on the same data exchange protocols declined. If we pushed diplomatically and invested in trying to resuscitate the NSO and have it set new standards and hold countries to account in terms of whether the weapons they are producing meet those standards, that is a way of using existing NATO organisations.

Likewise, NATO has a national armaments directors forum where national armaments directors regularly exchange data and try to work for co-operation or standardisation. We can perhaps get that to do more. The NATO Support and Procurement Agency can likewise put pressure on states when they are producing pieces of equipment that are not compatible with one another. There is a lot that we can achieve by reinvigorating some of the existing NATO institutional architecture, parts of which have become sclerotic and underused over time.

Secondly, I would like to build on a point that Air Marshal Stringer made. Both the JEF and the countries that are involved in it are extremely eager to use that forum to achieve more. If we really pushed it, I believe that our JEF partners would be quite happy to engage in giving that organisation an armaments dimension. Bilaterally, we ought to remind the French of the Lancaster House accords and try to capitalise on Macron's recent epiphany.

Thirdly and finally, European states are increasingly relying on non-European partners. North-east Asia's defence industries are exporting heavily into Europe and involved in co-development. South Korea last year signed $28 billion in arms export contracts, meaning that it signed more contracts last year than Russia was signing pre-war. Most of that is to Europe, to countries such as Poland. Japan has also amended its constitution to be able to collaborate more with European states on defence industrial co-operation. They are both outside the EU. We may want to co-operate more and figure out ways of institutionalising co-operation with the advanced, industrial, democratic, non-European states that also want to join this integrated defence market.

Q27 **Lord Bruce of Bennachie:** You have all said we need to scale up, but I am concerned that you think it is not enough or fast enough. In the past, when we have had to, we have been able to do things quite quickly. You can go right back to when we made 20,000 Spitfires in three years, the ability of the task force in the Falklands or even the tackling of Covid.

We have complete cross-party unity on this. Our leaders are saying that this is a war that threatens European democracy and that it has to be won. If that is the case, is there not more we can do practically to move more quickly? Where would you prioritise the things we could do fast enough to make a difference? Many of us are concerned that, while we talk, Ukraine could be overwhelmed. Clearly, we cannot rely on the United States.

I happened to be in Estonia and Finland at the end of last week and met the chair of the Estonian National Defence Committee, who said the practical support in volume from western Europe, never mind from America, was not delivering enough. He was concerned that the fear of escalation was being used as an excuse, whereas from the Estonian

perspective their conclusion is that Putin is a coward. He is terrified of escalation. You do not sit at a long table 100 miles away from President Macron if you are not concerned about your own personal survival, never mind your country's. Are we being too timid and too cautious?

My more practical point is that we have the European Political Community summit finally agreed in July. Should this not be at the top of the agenda in terms of what the UK is going to do unilaterally, because some of it will have to be unilateral, and how we can co-ordinate efficiently? If we do not respond quickly enough, we are in serious trouble.

Edward Stringer: The last time we had a war of this scale from 1939 to 1945, Chamberlain spent a fair bit of 1937 and 1938 going around and scoping just what our industrial base was that could become our defence industrial base. You could turn furniture factories in High Wycombe into Mosquito factories. If you had enough people with lathes, you would just have to issue Merlin engine parts and you could have been building Alvis truck engines. You can shift that over to war production. Look what the Russians did, literally hammering lathes into permafrost with no walls around the factory.

It is a bit more difficult now. High-end production is harder to shift over. Do we actually have that industrial base? Also, in 1939 we drew on the resource base and the supply chain of the empire, and we thought about it a lot. We had the Committee of Imperial Defence. I used to run the Royal College of Defence Studies, which started life as the Imperial Defence College, to train people from across Government, not just the military, on how you would mobilise the national economy ahead of wartime. A lot of those habits have been lost.

I will just rehearse what we need to do. We are not starting from the best position, but we still need to make that strategic leap, because we will be in a much worse place if Putin somehow manages to snatch victory from defeat here in Ukraine, Belarus falls in line, et cetera. We will be spending a lot more money for decades into the future, so we need to make that shift now. That starts with political leadership. We have the 75th summit of NATO coming up. We have all talked about the JEF, and you have, in your question, told us what you sensed in Estonia and other places. I also pick up on that.

For what it is worth, and this is only a personal opinion, were I still the director of operations at the MoD I too would have made the assessment that Putin is very good at rattling the escalation alarm and we run away more quickly than we should. Those that would bear the brunt of it immediately have made a very different calculation from us. I will not pretend to understand exactly what the rationale is in the West Wing, but, having been in Washington last month, everyone you speak to now has been conditioned to look at all decisions through the lens of escalation.

That leads me to my final point, which I could have made earlier. If there is going to be a sense of a slight US retreat from the defence of Europe, it is not just the American spend and muscle that is going to be missed; it

is the American brain, which in many ways has led the NATO effort. It has led that standardisation, and most other NATO countries were happy to fall in behind it.

If the European pillar of NATO is going to have to stand up, it will not be just in spending on production or doing some standardisation. We are going to have to think through how we replace the de facto integrating agency that was the American armed forces, the COCOM—the combatant command system—and that sense of military leadership within NATO. These are very important questions.

Tim Lawrenson: I agree with all of that. The first challenge is the political mindset and leadership to decide that this is the number one issue that needs addressing and that affects our collective security. We see some statements along those lines, but, particularly in the UK, it does not feel like that is the mindset at the top of Government. It feels like Ukraine is a long way away, and we do what we can afford and what we can to help, without breaking the paradigm.

That is the issue: do we need to have a fundamental rethink of what this is about and the extent to which it affects all our security? The answer is probably yes, but we are not there yet. I am not sure what it is going to take. What is the change in the position in Ukraine or, indeed, in some part of NATO territory that would tip the balance? It does not seem to be enough yet to do that.

Dr Marc DeVore: I would add three things. First, I fully agree with Air Marshal Stringer that Washington has perhaps been too afraid of escalation and that that has crippled decision-making. It is not alone on that.

The United Kingdom is somewhat better. We were the first to provide long-range strike systems such as Storm Shadow and have very successfully pushed the envelope and demonstrated that Putin has very little appetite for escalation. While we are less afraid of escalation, I also agree with Mr Lawrenson that we have not yet necessarily decided that this war is existential for us and resourced it as though it was.

If we did decide that the war is absolutely critical, what would provide more military support in the shortest term is not industrial mobilisation but money. The fastest way of converting resources into weaponry for Ukraine is to raise money and buy them on the non-European market.

The Czechs just found 800,000 rounds of artillery through a variety of non-Western suppliers. They were able to raise, through European countries, the money and are going to supply that to Ukraine. In the short term, if we decide that this war needs to have a higher priority, it is about trying to raise money as opposed to upscaling our own production.

When it comes to upscaling our own production, Air Marshal Stringer is completely correct that we should not think about how quickly defence production increased between 1939 and 1944. We have to think that the investments in shadow factories, the tooling, and the infrastructure to achieve that upswing in production really began in 1937. The planning

began in 1935.

We are also in a more complicated world, with globalised supply chains. What we are discovering during this war is that a lot of the key components in our weapons are not actually produced in the UK, but by other partners and allies that might have their own needs. We should think through industrial mobilisation. We need to start planning for it, but we cannot imagine that any steps we take today are going to yield results in 2025.

Q28 **Lord Soames of Fletching:** Interoperability, in my view, has been a disaster. It was talked about endlessly when I was soldiering in the late 1960s and early 1970s, when the only worthwhile interoperability in NATO was the infantry ammunition to go to the 7.62, which did go.

Lord Bruce referred to the ability to buy stuff very quickly if you need to. I remember that, during Iraq and Afghanistan, the Government exercised the UORs—the urgent operational requirements—which enabled a very great deal of equipment to be bought without the constraint or the interfering that went on in all other procurement.

Frankly, I am afraid that the Government have shown inexcusable lethargy over this question of ammunition. They get all the military advice, they know exactly where we are, and they will not spend the money to enable us to do what we know we have to do.

How feasible is it for the UK and its allies to maintain large ammunition stockpiles in normal times, which are not now? What balance should the UK Government strike between increasing the stockpiles of expensive high-end weapons compared to stocks of less sophisticated weaponry?

Tim Lawrenson: Clearly it is feasible, particularly for the less sophisticated elements of the munitions we are talking about, to build up stocks. It becomes progressively more complicated the more complex the system, partly because you have obsolescence issues with highly sophisticated missiles, for example, and the cost of storing and maintaining them, which is somewhat lower with 155 ammunition.

At the moment, frankly, the priority is just on getting stock to Ukraine, so not much thought is going to how to rebuild to a more credible level that would be part of this rebuilding of a level of credible deterrence. By deterrence, I mean conventional deterrence rather than nuclear, where that is a combination of the credibility of the Armed Forces, the equipment they have, the stocks that are available, and the extent to which they can source new supplies from industry quickly enough to convince a potential aggressor.

Lord Soames of Fletching: The danger, surely, is that, if you are fully equipped, are known to be fully equipped and have reserves and sustainability on the battlefield, that in itself is a deterrent.

Tim Lawrenson: The goal is to get to that. We are not there yet. The war has exposed the lack of credible levels of deterrence across the board. We need to address all of those, not just stocks.

A question that needs to be asked is to what extent you build up stocks and to what extent you have these ever-warm production facilities to fill the gap once those stocks have been used. That comes down to the planning assumptions again. What sort of war do we expect to be fighting? How long will it last? How much will it be like what we see in Ukraine? You would hope that the NATO operation would bring to bear all sorts of weapons that have not been made available to Ukraine, so would it be quite the same? We do not know.

Lord Soames of Fletching: It requires an element of thought. When the Chieftain replaced the Centurion, going from a wonderful 105 gun to a 120-millimetre gun, the Germans went ahead with the Leopard, with a 105 gun, which is probably the best tank gun ever made. Even in the Challenger, we went ahead with 120, which is over-gunned. There, again, on the battlefield in Ukraine, they are having to find two different sorts of tank ammunition, probably for the same operation.

Edward Stringer: That question of interoperability is a very interesting one, because you can have standards of integration and you can have actual standards where the production becomes identical.

When I was flying jets around NATO, I could turn up behind any NATO tanker and take fuel from it, I could talk to any NATO tank on the radio, and I could talk to any intelligence aircraft on my data link, because the interface standards were set, even though they were made by different manufacturers to different designs.

We can standardise around 155-millimetre ammunition, but, if the manufacturers design the chambers, the barrels, et cetera, for a particular nature of ammunition, you still need separate ammunition at that point and the 155 standard is a bit redundant.

The lesson is that any 5% or 10% advantage you might gain by having the perfect gun is massively outweighed by the costs of having a different supply chain, a reverse supply chain for maintenance, et cetera. The logistic and administrative burden of support, which goes up in wartime and not down, becomes almost unbearable. I would imagine that there are a lot more than two types of tank ammunition in Ukraine at the moment. Off the top of my head, I can think of at least three different countries' equipment being used. Standardisation needs thinking through. We have to be quite ruthless in working out what actually wins wars when you get down to real logistic warfighting.

The second point you mentioned was the urgent operational requirement. Of course, that allowed you to move quickly because you could get past competition rules and say, "I have a need for this on this operation. Manufacturer X is making product Y and I'm going to buy it now". That requires manufacturer X to be making product Y at the sufficient quantities already, so you still come back in wartime to having a defence industrial base that can operate at the sustained level of production required.

That links to your final point, which is how much we can afford to keep. I would just point out that, by doing this over time, conserving stocks and

maintaining supply sensibly, the Finns, as I said, had already worked out how they were going to take on and stop a Russian invasion. I know they have different challenges. I know they do not have the commitments that Britain has, but, nevertheless, they have built that capacity as well as capability up on a peacetime defence budget that is the equivalent of £7 billion. These things can be done if you reprioritise and shift your mindset.

Q29 **Lord Houghton of Richmond:** I need to declare two interests. I am an adviser to Thales, which, among other things, although a tech company, is also in munitions productions and produces the NLAW in Belfast. I also chair a company called SecureCloud+, which provides the secure collaborative links between the nations of the JEF.

My question is reflecting on what has been said so far. Do we run the risk of taking away any false lessons from what currently are quite unique circumstances within Ukraine? In many respects, Ukraine is fighting, on behalf of NATO, a proxy war. As some people have indicated in recent questions, it is a war of limitation. It is limited by both geography and means applied. In many respects, the aim must be to keep Ukraine in the fight. There are many ways, other than just industrial production, to do that, such as a greater exploitation of the air domain, which we do not want to enter into because of the fears of escalation.

Separate to that, as was said at the very outset, one reason why Russia went in is that Putin made the calculation that NATO would not do anything about it and, therefore, conventional deterrence failed. We need to re-establish conventional deterrence, but should we knee-jerk totally towards the industrial capacity of industrial-age warfare? Remember that, in NATO's general defence plan 83, we had only 14 days of high-intensity rates and scales of artillery ammunition because we were going to trade land for time and fall back fighting a tactical withdrawal before the threat of tactical nuclear exchange.

I am not suggesting that we adopt that as the next plan, but the methods by which we could now more effectively re-establish conventional deterrence without completely moving back 50 years to industrial-age warfare are there within clever minds with clever weaponry and clever thinking. What might be the false lessons that we need to avoid taking away from what are some quite unique circumstances at the moment?

Edward Stringer: All I would add to your list of what has been limiting and framing it is the nuclear question, which you came around to when you spoke about our Cold War planning assumptions. That has to form a key part of it.

I would like to see a fundamental lessons learned process here. It cannot be left to the MoD to ask, "What have we learned about how we might fight?" This has been a national mobilisation, and it has had to balance the old-school lessons of production. If you go to the Second World War memorial here in Kyiv, you will see that a bigger frieze than the one commemorating the soldiery is the one commemorating the whole front, the home front and the production effort that went into winning that war.

Look at Ukrainian railways. The meetings I have had here this week have been in many ministries other than the MoD.

Nationally, we should look at this and ask, "What are the lessons that are apposite?" Otherwise, we might knee-jerk, as has happened at various stages, to saying, "Tank warfare is back", with various politicians being lampooned for suggesting it was over. Tank warfare is not back as it was. The drones are here, but as they are being operated at the moment, to link to your point about better use of air, we think they could probably be better used. That might be an advantage that the Ukrainians could steal over the Russians yet.

Merely mimicking what has gone on here or taking this as the template for the future would be wrong, but there are a huge number of lessons here that can be applied to the future. I will finish by rehearsing—forgive me; you have heard it before, General—the requirement for a military strategic headquarters and, therefore, a J7 or force development organisation that thinks through what the future of warfare might look like. That would allow the headquarters to make the big bets on what it needs to invest in to be ready for what is coming next, which will not look like this but will build on this.

Dr Marc DeVore: I would agree with everything that Ed said. I really appreciate the question that the general asked.

We should not assume that any future war is going to directly mirror what we have seen in the Russo-Ukrainian war. We should also not assume that future wars are going to look like the NATO scenarios and wargames that we prepared up until the end of the Cold War.

As was mentioned, tactical nuclear weapons and a tactical nuclear escalation was the factor that let us feel comfortable planning for only 14 days of conventional warfare. In many cases, we did not even acquire the ammunition and have the stocks available for 14 days. The nightmare of repeated commanders of NORTHAG[2] or the British Army of the Rhine was that of running out of ammunition before even those 14 days would elapse.

We do not have tactical nuclear weapons. The French have some but, if we are relying on tactical nuclear weapons as the thing that will limit the duration of a conflict, that really assumes that we are relying on the Americans. Given where American politics are going, I am not sure that that is a safe bet in every scenario.

On the issue of air power, in this current war, the variety and reach of ground-based air defence and electronic warfare have prevented either country's air force from operating at scale over the forward line of battle. We are more practised in the suppression of enemy air defences, but, as Air Marshal Stringer knows, for those capacities we also rely very heavily on the Americans.

[2] The Northern Army Group (NORTHAG) was a NATO military formation during the Cold War and was part of NATO's forward defence in Germany.

In a scenario where we have potentially less American support, perhaps because there is a conflict in Europe at the same time as a conflict in north-east Asia, or perhaps because the United States has become more isolationist, can we count on leveraging the air power that we have invested in so heavily in those circumstances, or will we be forced to fight a war that looks more like that being fought between the Ukrainians and the Russians?

Tim Lawrenson: In having a fundamental lessons learned process, a key question that we are going to hit up against is where the US is. Is the US going to be the pillar of NATO that we have depended on for so long? You end up with quite different answers to what you need to do if you have different views on that.

Even if you come to the view that the US will get to where we would like it to be in the near term, it is pretty apparent to anybody who looks at global geopolitics that the US focus is going to shift away from Europe, so Europe is going to have to do more for itself and its own defences regardless.

That raises questions. Which bits of what the US now does do we need to think more about doing for ourselves, and how? That may mean industrially; or it may simply mean buying that kit but owning and operating it in Europe to a greater extent than we have. What you will see is a push in EU countries to say, "Much more of this has to be done industrially in Europe".

Q30 **Lord Grocott:** You have, in one way or another, answered the question that I was going to ask, which was about the future and what the MoD might learn from everything.

I will ask you to have a laser-like focus, with only one answer to this question. As you know, our Committee's job is, in part at least, to make recommendations to the Government. What would be the single lesson from this war so far that you identify as being the number one priority? What would you recommend to the Government to do about it?

Edward Stringer: I will be brief, because I have rehearsed the most important point. This has demonstrated to us that the way you fight actual wars is not the same as the warfare that the military trains on to conduct an exercise, with the addition of different rules of engagement.

As I said before, this is about cutlery and food. Realising that should slant or completely reorient the way that we go about nationally planning for conflict, in the way that, when we had a Committee for Imperial Defence, we thought about how we would deter our likely main foes. To do that, you asked, "What should we do about it?" The Ministry of Defence has become, over the years, an organisation that manages, constrains, and looks after the peacetime exercise matrix of the military and the more limited operations that it tends to conduct. It has become, in recent years, almost a military blue light service. It needs to reorient itself now.

If you extrapolate from all the thorny policy questions that have come out here, you can see that the department of state element of MoD's head

office now has a whole load of other facets to face and address. It should be offset by a military strategic headquarters with a commander who would be held to account for the readiness of the warfighting machine, not just the state of play of the current front line, with readiness across breadth and depth.

The first thing that we can do is to have a national armaments director with real clout who can therefore make sure that the services have just enough of what is good enough, and that the money is appropriately divided across the breadth and depth that will be required, because a fair bit of it is still wasted in the usual way, as many Select Committees and oversight bodies in your august building have chronicled in recent years.

Dr Marc DeVore: To sum up in one word, it would be scale. We have a superbly trained, well-equipped, and balanced force, but one that is too small and too inadequately set up for large, prolonged conflicts of the type we are seeing.

There are two ways of achieving scale. The simplest is simply to spend a lot more on defence. We take the defence budget up to 3% or 4% of GDP, which is where the Poles have put it. If we are unwilling to make that type of investment, we have to think about how we achieve scale through efficiencies and being clever, as opposed to simply devoting more resources. For that, I would do a survey of British industry, not just defence industry but looking at dual-use and civilian industries where production could be adapted or used for defence.

We ought to think carefully about stockpiling. This war has shown that a lot of equipment past its use date has turned out to still be useful. If we could find a nice place with an arid climate where we can park equipment as opposed to disposing of it, we could give ourselves some deeper stockpiles. That would also require thinking about reserves, the territorial force and how, without introducing conscription, we can come up with other types of force that we might generate and throw into the mixture.

Tim Lawrenson: It is difficult to summarise it in a single word. We need a complete mindset change on what the challenge now is. We have gone from this peacetime mode, but we have not moved into proper wartime thinking, as far as I can see. It is across the entire enterprise—politics, the Government, the MoD and industry—but it also must be with partners, European partners primarily, because that is where the common requirement and common threats are, and where most of our experience of working with those partners exists. It seems the more natural place.

We have some challenges that need to be addressed. I mentioned earlier that, because we left the EU, there are some barriers. Those barriers are not insurmountable. There is an appetite in the EU, particularly on defence, to change some of those rules or to allow a closer relationship with the UK, not least because of the current situation, but we are not really pushing it. We are not addressing it. We have basically just left it on the shelf to be addressed at some later date.

The EU is saying, "Until we see evidence that the UK is interested, we are

not going to push". It is for the UK to start the dialogue. I think the EU would be very willing to take that forward. Then we can get some of the efficiencies, interoperability, and specialisations that we have been talking about, which achieve more for what will probably have to be an increased defence budget, but maybe not increased by as much as it would otherwise be.

The Chair: Thank you very much. We have kept our witnesses for a long time. Thank you all for spending so much time with us. I remind you that we will send you a transcript for your review. It was very interesting. If we did not have some recommendations before for the Government, we do now. We very much appreciate everything that you have said. I declare the session closed.