

Scottish Affairs Committee

Oral evidence: [Scotland's space sector, HC 150](#)

Monday 27 November 2023

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Members present: Pete Wishart (Chair); Alan Brown; David Duguid; Sally-Ann Hart; Mark Menzies; Ms Anum Qaisar; Douglas Ross.

Questions 81 - 193

Witnesses

[I](#): Luis Gomes, Chief Executive Officer, AAC Clyde Space; Peter Anderson, Chief Commercial Officer, AAC Clyde Space; and Theresa Condor, Chief Operating Officer and Director, Spire Global.

[II](#): Reuben Aitken, Managing Director, International Operations, Scottish Enterprise; and Bryan Fraser, Head of Business Growth, Scottish Enterprise.

Examination of witnesses

Witnesses: Luis Gomes, Peter Anderson and Theresa Condor.

Q81 Chair: Welcome to the Scottish Affairs Committee and the ongoing inquiry into the space sector in Scotland. Today we have some representatives of some of our foremost companies operating within Scotland. I will let them introduce themselves and talk a little bit about the work that they do.

Before we do that—we visited both of your companies just a few weeks ago and on behalf of the Committee, I thank you for your time and your generosity. We learned a great deal from actually being there, speaking to you face to face and seeing what you do. We will start with you, Ms Condor.

Theresa Condor: Hello, everyone. I am the Chief Operating Officer and a co-founder of Spire Global. We are a data and analytics company that uses space technology to help government and business customers make the world a more sustainable, safe and prosperous place. We operate the world's largest multipurpose satellite constellation for maritime, aviation, weather and space services. We specifically focus on a collection of radio frequency signals, what we tend to call listening satellites. We do all of that technology, the design, the manufacturing of that satellite constellation in Glasgow, in the Skypark facility in the centre of town.

We initially came to the United Kingdom in 2015 and to Glasgow specifically to set up our satellite manufacturing facilities and space R&D centre of excellence. We have grown during those years. We now have over 160 employees in our facilities in Glasgow. We have built more than 170 satellites out of those facilities. Together, we and AAC Clyde have made Scotland the main centre of excellence for small satellite manufacturing across Europe.

Luis Gomes: I am the Group CEO for the AAC Clyde Space Group. I am based in Glasgow. We are an international group present in five countries. We have six companies. Our job is to make space accessible to everyone. If you want data, if you want to put your satellites in orbit, we will be the people who can do that.

In Scotland specifically, we build satellites, we build components for satellites and we operate satellites and we then sell the data and services from those satellites to other companies around the world. We are very much focused on markets that help our life down here on Earth. We provide data to help people manage the oceans and to help manage crops in agriculture. We are doing all of that out of Glasgow. We like to think that when we were founded in 2005 we were the start of the Scottish satellite industry and I think that is fair to say.

We have come a long way since then. We currently have about 90 people employed in Glasgow, out of the 180 that we have in the group across



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the world. This year, for instance, we have built and launched 11 satellites, 10 of which made it to orbit. We are growing not only our own constellation for our own services and data business but we are also providing satellites to third-party customers around the world, all from Glasgow.

Peter Anderson: I am the Chief Commercial Officer for the AAC Clyde Space Group. I will just leave it there because Luis covered it pretty well.

Q82 **Chair:** I should also add that I know Mr Anderson was present at the roundtable we held in Glasgow with representatives from across the space sector, which was very useful. We have further visits planned, I hope in the spring, and we are very much looking forward to that.

To start I will just pick up a couple of things in your introductory remarks. Ms Condor, you said that Scotland is a main centre of excellence when it comes to the space sector and what we are doing with developing it and the jobs that it has provided. I have looked at what I have here in front of me saying we could have a major part to play, we will have an end-to-end facility, we lead in small satellite manufacturing, and we will hopefully have launch capability. Are these accolades that we are getting about Scotland's space sector, the size and depth of it and its value to the economy deserved? Is it tangible? Is it acknowledged and felt not just here in Scotland but across the UK, perhaps in Europe?

Theresa Condor: I think, for sure, that it is in Scotland. It is given voice in the United Kingdom certainly. There is always discussion about levelling up. There is still always talk about including Scotland. It is probably less well known in Europe than it could be, but it certainly is known because the UK does play a strong role in the European Space Agency.

More recognition could probably happen, and more people from the space sector within the UK could be willing to travel up to Glasgow and see, as you did, the facilities that exist, the type of technology and R&D that is being done because sometimes when everyone is here in London and you are not here, people forget about you. They think you are at the same stage as you were the last time they saw you. The biggest challenge is getting more people to travel up to Scotland to see what is being done there.

Q83 **Chair:** Are we a centre of excellence, Mr Gomes, when it comes to the space sector with what we have in Scotland?

Luis Gomes: Yeah, Scotland is probably the leader when it comes to CubeSats and small satellites or nanosatellites in Europe, producing more than anywhere else in Europe but it is also about the quality of what is produced and the purpose. We are not just doing experimental satellites anymore. We are doing operational satellites that are delivering a service and they are delivering a quality service to our customers. Yes, it is fair to say that it is a centre of excellence, probably the centre of excellence in Europe.



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Q84 **Chair:** You say it is a centre of excellence but both of you had HQs in Scotland, which have now been relocated elsewhere. Why did you move on if we are such a centre of excellence?

Luis Gomes: When it comes to satellite building, our headquarters is still in Scotland. Our legal headquarters are in Sweden, because that is where the Swedish company that acquired the company was based. Our biggest facility is still in Scotland and most of our executive team is based in Glasgow

Q85 **Chair:** Why did you choose Scotland and Spire for some of your development work?

Theresa Condon: There were three main reasons when we were looking for a location to make our centre of excellence for satellite manufacturing in 2015. The first one was the partnership that we ended up seeing from Scottish Enterprise. That made a big difference when I was going around talking to a number of countries and that was a very positive, supportive, and, I would say, quick-moving, interaction. The other thing that we cared about was there being an existing space ecosystem and supply chain. At the time it was less developed than it is today but it certainly existed. Another thing when we are looking at a location is access to talent, because we are in an industry where you need engineers, data scientists, very high-tech capabilities and, as everyone is aware, getting good talent, getting them to stay, getting them to be committed is something that every company is always thinking about.

You have that in Scotland with really good universities but also in particular analogous industries, mainly oil and gas, where you can still find people who are skilled engineers and they can be transferred into the space sector. Those were the three things we looked at that we thought made Scotland an attractive place and have been true.

Chair: You explained it to us when we visited your facility, but why was there the merger between Clyde Space and AAC? Mr Anderson, what was the reason behind that?

Peter Anderson: AAC Microtec, which was the previous name of the public company in Sweden, had promised their shareholders, and nowadays our shareholders, that they would grow. There were a few mechanisms for that and one of those was through acquisition. At the same time, Clyde Space, which was the name of the UK company, was on the precipice of taking another step in trying to become a bigger company, had made a lot of investment, done a lot of work and made a lot of partnerships in country to start growing and certainly was looking to take some investment.

It ended up being a bit of a marriage of convenience but certainly since then has ended up being a really great relationship and the group has put in a fair bit of investment. It was a good example of how inward investment can take what already exists in the country, add weight to it and then take advantage of it. As Luis says, since then we have grown



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with the acquisition of three other companies and setting up one other to prepare ourselves again for what we hope will be another big step to come.

Q86 Chair: What would be the motivation behind that big step? What do you see as the next big thing for both of your companies? We visited, we see what you do and we realise it is a growing sector. What will it take to get to that next stage?

Peter Anderson: For us, what it will take is investment fundamentally. We find ourselves growing out of the traditional SME tier and looking at the scale-up phase. That is a difficult phase to get past. It is risky, it is hard to always see the end goal. We are excited about what we have done. We have laid a lot of groundwork. We have taken some good support from the Governments, both in the UK more generally and Scotland. But we are ready. For us, it is around our data services. That is the same as any industry, like Dell or IBM back in the 1990s. We could sell spacecraft, or servers in their case, but leasing that capacity and then generating recurring revenues from singular investments is clearly where we are going to end up being able to grow.

Theresa Condor: As you may be aware, in 2021 we went public on the New York Stock Exchange. We are now at over \$100 million in annual recurring revenue. When we pass that mark, it puts us in a different stage of company where we start looking at the growth opportunities and we start being expected to be seen not as an SME but as a key player in the sector overall. That is what we are looking for. We are that in Scotland. In the broader UK, we are looking to get that recognition for the role that we play in this particular sector in the UK and, of course, in other places where we are located as well.

Q87 Ms Anum Qaisar: Ms Condor, you have spoken about what brought your space business to Scotland but some of the evidence that we have received as a Committee says that the UK's space ecosystem favours businesses in the south of England. Has Spire experienced disadvantages as a result of being based in Scotland?

Theresa Condor: To some extent that is probably true. You can never say one way or the other how things are done. The UK Space Agency is definitely the gatekeeper to working with the European Space Agency. Any company in the UK trying to work with ESA has to go through UKSA and get their approval first. ESA needs to be a partner if you want to work with institutional customers, which we do.

My biggest concern with UKSA always is to make sure that we can do this in a timely way, quickly, to the relevant degree. That is not just tiny little competitive SME-based projects that never go towards real commercialisation or operationalisation. We are focused on not doing one-off R&D projects but building technologies, working with customers that turn into real recurring revenue. It is sometimes difficult for people down here in the south to visit what we do in Glasgow, to pay attention



to how we have grown and our operational capabilities. Sometimes it is just out of sight, out of mind and we need to try to make more effort to always be in front of people and remind them of what the opportunities are.

Q88 Ms Anum Qaisar: Mr Gomes, what challenges has AAC Clyde Space experienced from being based in Scotland? Similar?

Luis Gomes: I think similar. We are far away and sometimes we can be forgotten. I was recently at a function here in London and several people that had not seen me in a while because of the pandemic said, "Oh, I had forgotten you guys were up there". You do get that. There is a lot of activity down in the south of England relating to space and, in many cases, we notice that a lot of the decisions are taken, a lot of the information flows between informal methods—people meeting other people, people seeing each other—and we are sometimes surprised by some activities, some initiatives that are published. We ask why we did not know about this and people go, "Didn't you know this happening?" It had been discussed in the different forums down here in the south. I used to be based in a company here and I know how that worked. That was much easier to do.

Q89 Ms Anum Qaisar: What can you do to tackle that or what can be done at a governmental level?

Luis Gomes: Making sure that the space agency does have strong representation up north, that there is that opportunity to talk to representatives of the space agency that are close to the decision process of the agency. Make sure that probably we—I don't like to use the word "forcing" but forcing people to be in Glasgow, for instance, more regularly visit us, visit the companies, interact with us. Some people in the agency, in the MoD try to do that; others probably not so much.

Mostly we need a constant presence in Glasgow or in Scotland in general. I think a strong presence. It can't be just representation; it has to be someone that has the power to take decisions and maybe some part of the agency needs to be based there.

Q90 Ms Anum Qaisar: Expanding on that, Mr Anderson, do you feel as a business that you have enough opportunity to contribute to discussions around space strategy both at Scottish and UK level?

Peter Anderson: A slightly difficult one to answer in the sense that I think as a company we have put a lot of effort into doing just that. I would say that on an AAC Clyde Space level we have worked really hard and have employed people specifically with that task and we are here today. Certainly I was thinking this morning that I have been down in London quite a number of times this year, attending various roundtables and workshops and making sure that we are heard. We were in Belfast last week for the UK Space Conference, as we have mentioned. Certainly, a big part of that was just to show face and tell people what we are doing, why we are doing it and listen. We even had our chairman fly in



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and be present at that as well because it is so important to have the right people in the room.

We have worked very hard but I say that it is quite a barrier for the majority of companies in Scotland who are not—

Q91 **Ms Anum Qaisar:** Sorry, it sounds like you are making roadways to have those conversations but they are not necessarily open to you as a business.

Luis Gomes: They are open to us if we make the effort. We put a lot of effort into it. When I was speaking before I was generalising for the industry in Scotland. Over the years, and I suspect has Spire also, we have built those bridges. We have a team based down here in London. We have gone past that barrier. But I think for smaller companies in Scotland, those that have not yet been able to do that, they probably will struggle more. It requires quite a lot of effort and investment.

Q92 **Ms Anum Qaisar:** Is there anything you would like to add to that?

Theresa Condor: I think you have to be down here very regularly and you need to make sure that you end up being part of the informal discussions, as Luis mentioned. The informal discussions are very important in how things still seem to get done.

Q93 **Ms Anum Qaisar:** At a UK level we have the National Space Strategy and at Scottish level we have got a strategy for space in Scotland. What do you think are the right priorities from both of these strategies, Ms Condor?

Theresa Condor: I am very happy that the UK came out with a space strategy — everyone was waiting for it for a long time — and also that Scotland is taking this seriously and not just waiting for what happens in the UK. There is a broad list of priorities around those strategies and to some extent it is not everything you can think of, but there is a very big list.

To me, it comes down to what actions are going to be taken based on that policy and what are the budgets behind it because too often you will have the space policy and then you will have another policy document for each category or priority underneath that original policy. Then you feel like you have a bit of everyone just waiting until someone decides what actions we are going to take, what programmes we are going to push. To me, the actions are going to be way more important.

Earth Observation is something very relevant. Anything around climate, dual-use capabilities. I think what is really important is starting to focus on data and data capabilities coming from commercial customers so not just small satellite manufacturing for the sake of it but what are the data sets that are collected from that and how are they used. One of the areas under Earth Observation that I think has to have a bigger focus is when it comes to meteorology and that connection between meteorology and



space, which right now in the UK is actually very decoupled and is losing an opportunity for both of those sectors.

Q94 **Ms Anum Qaisar:** Mr Gomes, what would you say are the right priorities for both of these strategies?

Luis Gomes: I agree that Earth Observation is probably the one item in the strategy that I think we should be pursuing, not only in meteorology but also everything to do with atmospheric physics, gas detection in the atmosphere and also not forgetting an area that we are working in now quite actively, which is agriculture and forestry. We believe that there is quite a lot of potential worldwide and globally to support food production and monitor forests, which are critical for our future, but even in Scotland and in the UK, there is quite a big sector around these areas that we can support and can support from the UK.

The UK also has quite a lot of interest in international aid. This is a way of using British industry to provide that support internationally, that global support. I think those areas are quite key, not to forget many other areas that are mentioned in the space strategy. What is important is to have directed programmes around that space strategy. We see that in many of the countries right now, there are very big efforts being put into specific items in their national strategies. I believe that is something that the UK in general, and Scotland in particular, has to progress.

In some European countries, there is a lot of money being invested in specific aspects of their strategy. To pursue a strategy, you have to fund it.

Q95 **Ms Anum Qaisar:** Mr Anderson, what do you think should be the priorities for the Scottish space sector over the next decade?

Peter Anderson: Fundamentally, overall growth should be the number one and how that is funded and supported. Scotland faces quite a few challenges with respect to skills, logistics and so on. While I think that some very specific programmes would be beneficial to that, overall supporting the industry to grow and ensuring that we can then generate the exports and the revenues to allow us to support ourselves, is very important. The next 15, 20 years after that it is a very different landscape. I think that should be the priority.

UK-wide there are obviously some other bits that none of us tend to directly impact. There is obviously some strategy around sovereign capability and some other aspects, certainly post-Brexit, which are important but don't really fall under our remit so I will not talk too much more about those. But, yes, certainly otherwise what the guys have said here.

Q96 **Ms Anum Qaisar:** You talked about skills and logistics. What specific challenges are you seeing there?



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Peter Anderson: With skills, it is very specifically around that medium gap. A five to 10-ish year skill base is very difficult to hire in and it is also very difficult to retain. That much is true. There is some competition in country within the industry but also within parallel industries as well. It comes down to is being successful enough as an industry to continue to support that.

Q97 **Ms Anum Qaisar:** What sectors are you fighting against?

Peter Anderson: It is not so much fighting, so to speak, but there is a lot of crossover between maybe the renewables, oil and gas, some other high-tech sectors. For software, it can be with the finance sector as well so we do find—

Q98 **Ms Anum Qaisar:** What are you doing to attract more people to space? Not literally.

Peter Anderson: We are getting into my campaign now. No, sometimes in space we can be a bit of our own worst enemy. We are a bit too, on the whole, "Isn't space class, and whoever searches for space on Indeed.com, right?" We need to make space more accessible. People need to understand that their skills are transferable.

One thing we have been working on—and it is really a point-to-point case and it is not going to solve anyone's problems overnight—with one of the colleges up in Scotland and with Space Scotland, we have supported the development of one of these types of crossover courses, the intention being that it is an independent third party, so we are not delivering the course. We basically set requirements and help to develop it. The idea is then the burden is not on us to bring people across and they could go there first. I almost liken it to the RGIT within the oil and gas industry, whereby you have an independent that goes and teaches you all the safety stuff to make sure that you know what you are doing and that burden is not on the company directly to be able to understand how to do that and they all pay a fee towards it. Space could certainly benefit from that type of thing.

Q99 **Ms Anum Qaisar:** Ms Condor, what would you like to see happen over the next decade?

Theresa Condor: We have had great success in hiring good talent since we have been there but we are in a situation even around the world where talent is difficult, retaining people and finding the best people is difficult. There has been some number of good employees just making the rounds between companies in Scotland a little bit, which is not what any of us necessarily wants to see happen; that just holds everyone back. It is easier to hire junior people than it is to hire people at that more experienced level. The most valuable people to bring in are the ones who do have experience in another company doing something similar, who can come in and hit the ground running or can turn and be managers of more junior people.



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We have been involved in some training programmes where you will have students who are about to graduate come in and do a training programme and then end up joining the company. We have had some success with those as well. It is not something that we have been able to do at scale. Another problem is that when you have people just running so fast and trying to grow the company, you run out of time to do proper training and bring in people right out of university, as you would generally want to.

There could be something that might support it that could be facilitated. The biggest question there is related to everyone's bandwidth to train new people coming in. When you are a smaller company, you don't always have time to do that.

Q100 Chair: We see quite a lot of evidence on the national UK strategy, particularly quite a lot that says that it lacks details about how it can achieve. Mr Anderson will recall there were quite a few contributions about this at a recent roundtable where, again, people were asking how ambitions would be achieved. We have seen a lot of strategies in this Committee over the course of the past few years and there almost seems to be a familiar pattern and use of language such as unlocking growth, collaborating internationally, making the UK a technology superpower, developing resilience. All these things could apply to any sector. What makes this distinct to space? Other than references to some of the work that is ongoing, where is that ambition? How do we get from where you are just now to being a leader when it comes to the world?

Theresa Condon: The UK could do a lot that is related to defence and security and to weather and climate. Those are two areas where the UK can play a very strong role and where space also plays a very specific role. The UK needs to start looking much more aggressively at the role of government as a customer rather than government as a grant giver.

Q101 Chair: We will come on that. We have questions on that very issue so we will cover that in detail. Do we want to see more space in a space strategy, Mr Gomes?

Luis Gomes: I think that is important and it is also probably focusing the ambition. There are certain areas that probably offer better growth, quicker growth and that would probably offer more uniqueness to what the UK is doing. As with all strategies, they try to cater to a variety of interests so there is always the danger that you end up spreading your strategy over many—

Q102 Chair: Interchangeable strategy.

Luis Gomes: Interchangeable strategy, yes. I think sometimes focusing on a few activities, focusing on a few strategic lines is probably important because that will focus everyone and even if some companies have to change their focus, in the long run, that might be an important step.

Chair: I was trying to get how you really felt about it, but I think we



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have some of that in there. Mr Duguid has some questions about scaling up and some of the challenges around that.

Q103 David Duguid: I will come on to the scaling-up challenges but quickly, leading on from the policy issues that we have just been talking about, do any of you have any examples of particular conflicts or barriers that exist because we have a UK strategy and a Scotland strategy? Scotland is a constituent part of the United Kingdom; does the space industry feel that it is part of the larger whole or are there any examples of where it feels as if they are distinct from each other and that creates a gap between them?

Luis Gomes: From our perspective, we have worked very well with both Scottish and UK national policies and agencies that help us with building our business. We have had very good relationships. We have been successful with both Governments in that sense, so we have not faced that difficulty. I suspect that there are occasions where that might be a problem in certain parts of the strategy. We are very adaptable and because we do different types of business we can adapt to the different flavours of the strategy, but I suspect that on some occasions there might be some conflict or some difficulty for particularly smaller companies to adapt. They might have to choose one or the other.

Q104 David Duguid: To ask that in a slightly different way to maybe help Ms Condor, for example, to go next: do you have any suggestions for how the two Governments and the two policies could work better together?

Theresa Condor: That is tricky because my first reaction to your initial question was that I am not aware of conflicts per se. It is probably more just confusion of there is a UK one and there is a Scottish one and which one is the real one and is one overriding the other one or not? I think it is great that Scotland is taking this sector seriously and that is why we are in Glasgow and why we continue to be happy there. For me, having a policy comes down to what do you do with it and what actual programmes and money do you put against it to drive an agenda. That is where Scotland and Scottish space policy can help the UK not just do another policy and have more meetings but focus in on the agenda as it supports companies in Scotland in particular.

Peter Anderson: I think it comes down to budgets, depending on the strategy, who is paying for it, and that is what matters ultimately. Otherwise, they are just very nicely put together documents and you can read them and then put them to the side and get on with the day job. It is important to understand—and I suppose that might be the real question—if you have a Scottish one and a UK one, do they differ in funding and who might get behind the Scottish strategy over the UK strategy? I might even put it back in the other direction and ask: which one do people who own funds and budgets want to get behind, which one makes sense?



I will give you an example, to jump to one of your first questions when you asked whether we see conflict or otherwise. I have seen a good example where it has worked quite well. Scotland is a bit smaller and can be a bit more agile on occasion in the way the industry works. There was a need within UKspace, I believe, to look at the sustainability agenda and how space should be used, could be used and certainly should be used responsibly. Scotland had already done quite a bit of work on this and had set up a committee and put it in a policy. Someone put their hand up in another meeting and said, "We actually have this, don't do it again". As I understand it, that was welcomed and they said, "Great, we will take that over and review it". I thought that it was quite impressive that it was not a case of, "Very good, put to that one side and we will do this again". That is a good example of how that can work and that may be the collaborative nature that we need to strive for a bit more in how that works.

Q105 David Duguid: You have all mentioned funding and financial support. We have heard that there is a challenge on scaling up. Governments like to help start-ups and it is all very exciting and interesting, but what kind of obstacles are in the way of helping when those companies succeed and want to get bigger? Mr Anderson, you are nodding your head the most vigorously.

Peter Anderson: Yes, I really want to answer this one. I think that there is good support. I am sure that it could always be better and I suppose in many ways it can never stop and always has to be built on for smaller businesses. Scotland is a particularly good place to start a business; there is good support for that. I am sure we will hear a bit about it from the gentlemen in Scottish Enterprise. It is very good and Spire is a great example of that.

That type of funding, though, is to do very specific bits of technology development, very specific sorts of widgets, and they are very rarely, if ever, 100% funded. When you get to a certain size your investors have no appetite to fund another bit and they are expecting at that stage that you should be able to do that yourself. I think that is fair, you should spot the market opportunity, invest in it and access it. It is when you start to take a big-scale jump and almost what you are presenting—dare I say it—could be seen as slightly boring, "We are looking to scale up now. We need the support to take the big step here and put a system up to start delivering a service level". It is away from technology demonstration to service level work and I think that funding is much more difficult to come by in the UK. You said government as a customer and we will come back to that, but that is what we see as the real opportunity for that.

Q106 David Duguid: Despite the fact that, for example—and I have seen this in other industries—a relatively successful larger company could create tens, if not hundreds of jobs with some support, the excitement, the sexiness, if you like, is more focused on the start-ups, which might be only a few dozen jobs. It is not necessarily looking at it from a job



creation point of view.

Luis Gomes: I think the danger of just looking at job creation is that many times it is easy to put a case that says, "I am going to hire 500 people" but it is actually the sustainability of that. When you are trying to put across a business case that shows in 10 years' time we will be 10 times as big in revenue, jobs and everything, that sometimes is a long time. I notice that governments usually like a much shorter-term promise of a lot of jobs, but that does not necessarily create a sustainable business or a sustainable sector. It might create great headlines but it does not deliver long-term growth.

Picking up on something that Peter started to say, when medium-sized companies want to grow, the funding mechanisms that are usually available are not really easy to explain to investors. When we are scaling, for instance, and we are offered 50% co-funding on big projects, it starts to become quite difficult for our investors to understand that. We prefer mechanisms that probably put more onus on us to find funding but they are more deterministic for our investors. We are a company that is in that phase now. We are now in EBITDA-positive territory but growing quite quickly and we are in the mid-sized territory. It is quite difficult to find the funding, even being a listed company.

I don't think that the small company funding mechanisms are appropriate for this scaling up. I also think that just looking at the number of jobs that are created is a dangerous metric because it does not create a long-term sustainable sector.

Q107 **David Duguid:** We often hear, across a number of industries but particularly in the renewable energy sector, 10,000 jobs, 20,000 jobs there. I often wonder where these people will come from.

Ms Condor, do you have anything to add to that? In particular, is there anything that you would suggest that either the UK Government or the Scottish Government, or both of them working together, could do to help address all these barriers?

Theresa Condor: I think that some of the stuff at a very early stage where you might get financial support for the number of people hired, for example, is good when you are a very young company and you are starting out. Grant-based R&D competitions can also be relevant to get a specific type of technology going and maybe you start doing the R&D a little bit sooner than you otherwise would have because you can win a particular grant, but grants are not revenue. Commercial companies are always worried about their revenue and then about their profitability.

What ends up happening across the UK—and you see it across Europe as well—is you have a bunch of SMEs that will remain SMEs forever and they basically go from one grant-funded R&D project to the next, to the next and that is all they do. They don't do focused work towards an operational business plan. Their business plan is just to keep winning the smaller projects that are interesting, doing very relevant R&D work, but



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they do not necessarily turn into something that is actually used, that is in a state of readiness for a customer to take and get value out of. Some of that is good and probably necessary, but if you do too much of it you create a dependency of companies that never grow towards an operational service.

That is where customer contracts matter so much. We may come to the question later, but there is no large space company that does not have a significant portion of their revenue coming from government customers, because that is in space where a lot of the money and the funding and the appetite for technology comes from. You have absolutely commercial and we have a lot of commercial on my company, but government is a key customer in space.

Q108 David Duguid: I am guessing from your earlier answers that whether it is a UK Government strategy or a Scottish Government strategy, we are not doing everything we can. What could be done better to make sure that we are making the jump from just grant-funding R&D towards creating more customer-based, whether it is private customers or the Government as a customer, to deliver more sustainable growth and more useful growth to the overall economy?

Theresa Condor: Using procurement mechanisms to drive focused R&D is one way to do it. You could have Scotland or the UK saying, "We have particular technologies or capabilities that we believe are important and we also want to have national technology capability". Instead of doing a competition and giving out some grant funding and then the next round you do a completely different topic, you say, "I want to develop this technology and that will take three phases of work until something is operationally ready and so I will give phased work to several companies so that they can all develop this capability, compete against each other and try slightly different approaches to the technology."

It is R&D, and I get that it is R&D but it is a procurement contract, so they can take it as revenue and government can follow the progress of it. They can select over phases and at the end there will be an actual operational service that the successful companies can sell into the market even if Scotland is not going to be an operational customer of that capability. That is done in the United States and it is that kind of directed R&D using procurement. It is quite successful and this is why you see so many companies going to the United States and desperately trying to set up a US location so that they can take advantage of those opportunities.

Q109 David Duguid: That is interesting. Mr Gomes or Mr Anderson, do you have anything to add to that?

Luís Gomes: I will add that we agree. I say give us contracts and give us grants. There are two types of contracts. There are the R&D ones that are very successful in the US that are to some extent speculative, which is government saying, "We might be interested in this so we will give you a contract to develop this technology". It might succeed or not. Then there



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are the other ones that are about, "We need this service. We need this maritime surveillance", for instance, and compete for it. There are enough companies in Scotland that a good competition is possible and to me that would be the best way of doing this.

The metric then is: are we providing that service and are we developing the sector? This is very successful in the US, as Theresa said. Some countries give money to companies to put satellites in orbit and I don't think that is a particularly good use of money, but contracts for the services and for the data is a very good contract. We have had some success recently with demonstration services that we are developing in Scotland from a few different agencies. We hope that they will take us to operational services but it is still very much at the start.

To justify investment, for instance, investors need to see that customer appearing. There is also an interesting factor that if other countries, other governments see your national government being a customer they will be much more inclined to buy the service and the data because they will see that, "If it is trusted by their government, this is a good company".

David Duguid: If it is good enough for them, it must be good enough for us.

Luis Gomes: And US-based companies really succeed.

Q110 **David Duguid:** Mr Anderson, do you have anything to add to that?

Peter Anderson: I honestly don't have much to add to that.

Q111 **Alan Brown:** I think we have already covered some of what I was going to ask but a big theme that is coming out there from each of you is about the UK Government and the Scottish Government being customers and that allows it to grow and gives you reputational advantages as well. I will start with you, Ms Condor, because you spoke earlier about working aggressively with government to get contracts from government. What kind of services can you offer? Do you provide any services you provide at the moment to the UK Government or the Scottish Government? What are the barriers to being able to grow more that way?

Theresa Condor: One example of services that we are providing now is atmospheric weather data, temperature, pressure type of measurements that we collect from our satellite constellation. That data is used by Met Office. Every time you check the weather, you are taking advantage of some of the data from our satellites built in Scotland that are incorporated into the weather forecast by Met Office. However, Met Office cannot work with us directly. I do a contract with EUMETSAT, which is the European member body for meteorology and satellites. Met Office is a member of EUMETSAT and Met Office has to live with whatever EUMETSAT decides. Met Office now uses the data that I sell to EUMETSAT, which then gives it to Met Office. That is one-tenth or maybe less of the actual data that I collect and Met Office has to wait until EUMETSAT goes through its whole process to start using all the other



types of meteorological and climate datasets that we are collecting from our satellite constellations.

Q112 **Alan Brown:** Why can't the Met Office procure directly and not have to do it that way?

Theresa Condor: The way it has always been is that weather data is done by governments and it is very recent—we are the first commercial company to provide satellite weather data as a commercial entity—so Met Office never had a budget that allowed it to procure satellite data. All its satellite space-related budget went to EUMETSAT and so the pathways don't exist. I think this is a huge gap now that I am telling everybody to pay attention to because one of the biggest space-data users ever is Met Office but it has to go to Europe to get datasets from satellites. It can't work directly with the space companies in the UK. The more that you can combine what is happening with meteorology and the space sector overall in the UK is a win-win.

Q113 **Alan Brown:** You are saying it was always thus and that is why they have to do this. What level of decision making is needed? Who controls the purse strings that could potentially make the changes that you are asking for?

Theresa Condor: It would have to be DSIT making the capability, putting in a specific line item for Met Office to do some of their own procurement of satellite datasets, still contributing to EUMETSAT but also doing something else. I think that contributes to greater UK leadership and stature overall. It is basically what US Congress had to do for NOAA to procure commercial datasets. It had to give a specific directive to procure commercial datasets and test it out and see if it could get good quality, good value. That is what moved it forward in the United States and EUMETSAT is doing that as well, just to a very small degree and very slowly.

Not just my datasets but other commercial datasets in the UK, and Scotland, have a great competence in meteorological payload development as well as knowing what to do with the datasets and the data analysis. To me, this is the first easy, super-concrete thing that could help the UK, commercial companies and research entities that also want to access the datasets.

Q114 **Alan Brown:** Is there anything else in services that you think either the Scottish or UK Government should be looking at procuring? What would be the advantages to the taxpayer in doing that? Commercially you want a return but the taxpayers want to get a return from government procurement or else it is state aid, effectively.

Theresa Condor: That is why the meteorology one makes a lot of sense because every single person checks the weather and wants a more accurate weather forecast. Climate datasets that are collected by commercial companies matter a lot. If you want to talk about defence and security, datasets that matter quite a lot can be procured—this could



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be around spectrum monitoring, GNSS jamming, geolocation, things like that—it is definitely on the defence and security side. There are other things in the maritime domain awareness—dark vessel detection; things like that—that are operationally available from commercial satellite companies. That is very relevant for the military but it is very relevant to illegal fishing, to understanding the safety and security of waters around the borders, to even understanding sanctions compliance, supply chain, all of that. There is a lot of relevance.

I don't know whether that is Scottish Government as the customer. Many of these things are probably more on the UK side, unless I misunderstand.

Q115 Alan Brown: Mr Anderson, it came out loud and clear on our visit to your premises that you spoke very much about government procurement and that there should be more of it. In your written submission you also spoke about the MoD contract. Can you give us some examples of services that you think either the Scottish Government or the UK Government should be providing and also the barriers you have encountered with the MoD work?

Peter Anderson: A lot of government agencies probably don't even realise—although I think some are pretty mature with space data and the Met Office is a good example of that—that they could be using space data. You talked about the return on investment for the taxpayer. It isn't necessarily always about—

Q116 Alan Brown: Sorry, if I could just come in. Is that at civil servant level or ministerial level or a bit of both?

Peter Anderson: It is probably a bit of both and I think it is a bit of an educational thing as well and people understanding. The maritime domain awareness piece is an interesting thing where you might have a lot of active surveillance and people on boats and coastal stations that could be replaced or augmented with space data to improve awareness. The UK is a unique place in a sense, and we talked about that when you visited. It is quite a good sandbox with forests and urban areas and maritime and oil and gas and renewables. There are a lot of areas where we could be providing advantage. We have done work with renewable sectors to demonstrate how space data—and it is not exclusively space data; it is important to realise that; it is included with other datasets, which are sometimes terrestrially driven—could augment and provide a much better service.

We think one of the other things that government could do is to help bring those agencies through and give them a chance to understand what people can do and see whether or not space data could be an advantage to them. I don't know if you want to add to that before we talk about the MoD.



Luis Gomes: The fundamental issue in many of these points is that traditionally governments are much more geared towards giving grants for technology and occasionally to procure, like in the case of weather, their own satellites, either through international organisations or directly. The concept of buying data and services from space assets is not always traditional and not always understood. As I say, we are doing quite a lot of work with different agencies now in developing products, things that agencies can use. For instance, we are doing work on renewables and on forestry to see how we can create a product that government agencies say, "We want that", but it is an education. We have to educate the agencies and we have to demonstrate what can be achieved. As I say, the procurement mechanisms are not really there right now and we have to address that if we want to grow this sector.

Peter Anderson: Space has matured a lot in the last 15 years, so it is not like this used to be the case and somehow it has been forgotten about and we are trying to bring it back to the forefront again. Fifteen years ago these services were not so available. As the industry has accelerated in the last probably five to 10 years and companies have started up and become big, it is time for government to update the way they look at space and exactly that. It is not just about technology development and it is not even about getting to the moon or to Mars, although that stuff is very important. It is also about the commercial side of things. Space has become much more commercially focused than it ever has been and it can provide value. That sort of investment can deliver that benefit, as you say.

Q117 **Alan Brown:** Would you like to elaborate on MoD?

Peter Anderson: Yes, I will get on to that now. The MoD is a really interesting customer that by all reports, and reports directly to us, wants to access. One of the things about small businesses, of which Scotland has many, is that they are very innovative and can move quickly, relatively speaking. We innovate and we push the boundaries a lot. That is very exciting for defence agencies and it is very exciting for even agencies like ESA and that is why it quite often wants to support small businesses because it gets access to these great ideas, grassroots ground-sourcing it.

The issue with the MoD is that there is a real barrier to even speaking to it. It is quite expensive to bring yourself to the table. While MoD can visit us and get very excited and invite us to come—and that is top brass talking to us—when we engage with the machine it closes down pretty firmly at that point. We have been asked to put certain insurances in place, to have conversations, which are just too expensive on the off chance that we might be able to do some work. That is very difficult for us as a smaller business. We talked earlier about being present and being at certain things and having offhand conversations and that is also very important, but the first one is a real barrier for us.



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Luis Gomes: The MoD is a very large machine. Talking to everyone is difficult and expensive. Also the kind of products that they are used to are usually supplied by very large companies and so it is difficult to change the mentality. They are used to going to buy a big satellite that does a lot of things. It is difficult to change that mentality and if you are far away it is even more difficult.

Q118 **Alan Brown:** You say that on one level there is some good engagement but that is not translating into changing procurement and systems.

Peter Anderson: Yes, there is definitely a lag. If there was any opportunity to do something actively, that would be a good place to try to bring up the rest.

Q119 **Alan Brown:** Ms Condor, how does that compare to how the US Government procures?

Theresa Condor: It is very difficult working with and selling to the US Government as well, and certainly on the military side. I think that is the case anywhere you go. Everyone has that complaint, especially when you are a small company, of how do I interact. You talk to senior people and they are very excited and interested and then figuring out how to translate that into actual procurement and contractual frameworks is still difficult. In the United States I think there has been a greater openness to the procurement of data services. On the civil side you see NOAA procuring weather data services. On the intel side, you see the procurement of optical imaging services or SAR, for example, which has helped all the companies that provide those type of datasets. You are starting to see now the procurement specifically of datasets related to RFGL—radiofrequency geolocation—capability, so there are some initiatives that have been created around specific datasets with really decent-sized budgets attached. Those allow smaller companies or newer companies that have that dataset uniquely to get involved and start building the track record.

On the other side of things, the US has worked to put together some contractual frameworks that can be simplified, get done very quickly and are not as onerous as some of the typical ones, so it has tried to find ways that it can work with smaller and new companies. That doesn't mean that it is perfect by any means, but I think for sure it could be relevant for the different side here to look at that.

Another thing is that in the US there is less concern maybe for dual use. As everyone talks about here, given that budgets are much smaller, there is a lot of discussion around what technologies that can be used for certain civil purposes that are important, but can at the same time be used for different purposes, so there is greater impact per budget that could be had if you look at those. I know there is a lot of discussion about MoD and Space Command co-ordinating with DSIT, but it doesn't seem to happen in practice.



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Q120 **Alan Brown:** On wider government procurement, you feel a lot more can be done. In a previous session, Professor Iain Woodhouse gave an example, that the UK Government did a direct award of £20 million to an Italian company, for services that were not offered in the UK. I am not sure if any of you are aware of that.

Luis Gomes: I don't know which one, no. I know of a recent one for a Canadian company, but not for—

Theresa Condor: Yes, that is the one I am aware of.

Luis Gomes: I am aware of one for a Canadian company. I suspect there is on occasion the need to procure outside the UK, in the same way that other countries will procure from UK companies. I think there is an international market in data and services and that will continue to happen. My hope is that if there is that capability in the UK, then procurement will be prioritised for UK companies, but there is an international market. We sell from some satellites here data that will then be used in other countries for Government, so that also happens. I think that will always happen but if we can develop those capabilities in the UK, then the Government could procure from here.

Q121 **Douglas Ross:** Following that last subject, is it fair to say that the space and defence sectors are very closely linked? Everyone is nodding there.

There has been a suggestion that the Scottish Government are very keen to promote space, but they have more concern around the defence angle. This is certainly something that will come up with the next panel. Do you believe or have you seen any missed opportunities where the Scottish Government could do more to promote Scotland and the space sector, but because it is linked too closely with the defence sector, they don't take those opportunities?

Luis Gomes: A lot of what we do is civilian, so a lot of it is dual use. I would say a lot of what companies in Scotland have specialised in over the years is more geared towards the civilian side, but there is a big opportunity on the defence side. I have not—

Q122 **Douglas Ross:** Therefore if there are those opportunities, you have to get out there and sell what is available in Scotland. We have heard repeatedly today and in all of our evidence that we have a very good product to sell and Scotland has real potential there, but if there is any hesitation from the Scottish Government because of their own political views in terms of defence, they may not be selling our space sector as much globally because of those links and where we would be doing it would be events that have both defence and space together.

Luis Gomes: I can't say that we have been in a case ourselves like that. Our difficulties on selling to defence have been more from the fact that we are small and so we are not able in some cases to engage with MoD. This is not to say that there couldn't be a strategy from the Scottish Government to extend the applications to defence and probably promote



that to UK defence, to promote Scottish companies. That is something that could be done. From our perspective, it would be quite interesting.

Theresa Condon: I can't think of examples where I noticed the lack of something from the Scottish side necessarily; you would not necessarily notice it, but I have not seen anything either. Any time that Scotland can support us and help us find the right organisations, that is always helpful. I guess maybe a positive thing I can say is that there is a Scottish representative for DASA. I can't think what DASA stands for, but it is basically the R&D, the new technology development arm related to the MoD. There is someone in Scotland who is I guess the representative here. I think that programme does a good job in facilitating conversations, but beyond that I have seen nothing.

Q123 **Douglas Ross:** Mr Gomes or Mr Anderson—maybe Mr Anderson because you touched on it with my colleague, Mr Duguid—in your evidence session that you provided, page 5, paragraph 7.4, speaking about the Scottish strategy you say, “An omission from the Scottish strategy is how to support existing businesses to scale and grow.” Why do you think that is omitted from the Scottish strategy and what opportunities have you had to get that included going forward? If you have had those opportunities, how has that been received?

Peter Anderson: We have covered quite a lot of it already in terms of it just is a difficult thing. I think the answer is that the Scottish Government, if we think about that specifically, would need to become the customer and drive that procurement activity. We have not seen that as part of the strategy, so that has not been included.

Q124 **Douglas Ross:** But they could help existing businesses scale and grow without just being the customer. The customer would be important, but they have other levers that they can use to assist businesses. You are very clear in your evidence that that is an omission. I assume since you have put it in there so prominently, you have reasons why that has been omitted and what they could maybe do to resolve that.

Peter Anderson: This is true. Yes, I think there are going to maybe be a few examples, probably shortly, where we have seen companies come into Scotland more recently and it hasn't been massively helpful when there have been other existing industries there. We have found in the short term that has been quite difficult, so any kind of momentum we might have built over the last 12 to 18 months has felt like it has been certainly tempered, to be polite. That is certainly something in terms of a strategy more overarchingly, making sure that the Scottish Government and the Scottish sector recognise what they have and if there is a certain amount of money to be given out, in whatever mechanism that might be, that it is then for those companies that exist.

I think at the very start you mentioned that it is now an end-to-end representation and that is very much the case. There are probably some very nuanced gaps in there, some super-scientific stuff or some other



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supply chain elements, so I am not sitting here saying I have the exact map in front of me, but give or take, whatever you might need you could come to Scotland and I am pretty confident you could get that done. I think that is primarily what we are referring to. It is the absence of rather than any necessarily conflicting policies at the moment.

Q125 Douglas Ross: Because you notice the absence—you call it an omission—in here. Are there good discussions and relationships in the formation of these strategies where you could have highlighted that at an earlier stage or are you just presented with the Scottish strategy, saying, “This is going to impact your business, your sector and this is it”? Do you think there could be better relations in terms of the formation of these strategies?

Peter Anderson: There has been reasonable engagement, to be honest with you. Space Scotland has been around for a number of years, though it was probably about two or three years ago that it made a bit of a jump from the SSLC, the Scottish Space Leadership Council, which was an organically formed organisation that reached out and brought in Government members. We had everyone from Scottish Enterprise through to Scottish Government themselves appear there. We have found that in the last two years there has been a much more concerted effort and there has been a formalisation of that into Space Scotland.

We ourselves at AAC Clyde Space—and I am sure Theresa can comment as well—have had a lot more engagement with Scottish Ministers. Ivan McKee previously and Richard Lochhead more recently have come and visited and have listened. Following up on that is something that we are still pushing at and I am not entirely sure we have our feet under the table on that just yet, but we see this session as obviously part of that story. It is part of that momentum-building we are trying to do.

Q126 Douglas Ross: Finally, Chair, I have raised this at previous sessions: where are we in terms of the space sector being recognised by the Scottish public? Are you happy that they know something happens and they maybe have a general understanding that we produce more satellites than anywhere else in Europe? Would it be good and beneficial to you if the public knew more or is it key decision-makers you have to get that message across to? We have many exciting times ahead, both in Sutherland and up in Shetland, but they can also come with big disappointments, depending on what happens there. Is the public in the right place in Scotland about the space sector, about the opportunities, but also about the realism involved with what you are all trying to do?

Luis Gomes: I think there are opportunities to do better. I always take the test of the taxi drivers. They always ask me what I do when I am going from the airport to home or something and they are always very surprised when I tell them that Glasgow probably produces more satellites than anywhere else in Europe so there is definitely room for improvement.



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As you say, there will be big events coming up in Sutherland and, yes, they can go well or they can go badly, so I think a campaign to inform the public in Scotland is important. The more we can do about that the better.

I don't think it is just about Scotland; it is a UK general problem. People are very unaware of how important the sector is, but in Scotland, given the opportunities that we have, particularly around Glasgow with all the companies that are based there, I think there is a huge opportunity to spread the word and make people much more aware of what space does for them every day. We are big employers, particularly in the high-tech sector, so yes, I think it would be good to see it advertised more.

Theresa Condor: Having the general public know what is going on and also how much their lives rely on the space sector today related to weather, navigation or GPS and all of that is always going to be good because then you don't have people writing detracting articles and saying, "Why is taxpayer money being spent on going to the moon?" or something like that. Having the public understand the benefits of all of the investment that goes into the space sector I think is generally just going to be a good thing. At the end of the day, it is the decision-makers that will be across DSIT and UKSA and how they interact with the European Space Agency and the other leaders and regulators that will have a big impact on how this sector grows, how it is viewed outside of the UK as well internationally because, like it or not, space is one of the truly global industries that does impact geopolitics and the macroeconomic environment and all these other things. I think it is important how the UK sector is viewed outside of the UK as well.

Q127 **Sally-Ann Hart:** I will ask a few questions on skills training. We have heard that the space sector has difficulty in finding the skilled workforce it needs. Is this your experience? Can I go to you first, Ms Condor?

Theresa Condor: We are always trying to hire people and recruiting is a constant discussion inside our company. That is the case in Scotland, it is the case for our location in the United States, it is the case that everywhere in the world everybody is fighting for talent. I don't think that is unique to Scotland; that is just the state of the world.

Sally-Ann Hart: Do you have anything to add, Mr Gomes?

Luis Gomes: I just agree. I can put this in numbers. We have about 90 people in Scotland—we should have about 110—and the difficulty has been hiring the talent, it has been finding the people to fill those vacancies.

Q128 **Sally-Ann Hart:** You have an immediate need?

Luis Gomes: We have an immediate need. We bring in a lot of graduates from universities, but where we find the huge difficulty in hiring is—as Peter mentioned before—in that five to 10 years' experience, the leaders in engineering, the people that bring that experience to lead projects and



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lead the technology development, that is where we find the huge gap. This is global; it is not just us. It has an impact on our day-to-day operations, so our ability to deliver our projects and the opportunity to grow is hampered by that.

Q129 Sally-Ann Hart: What about apprenticeships? Do you recruit apprentices?

Luis Gomes: For small companies, it is not always easy, the management of the process, the management of the apprenticeships, and it is a long game. It is a long process to bring those resources online. When you are desperate for people, you tend to—

Sally-Ann Hart: Experienced people.

Luis Gomes: Experienced people. It becomes a hindrance because you are managing the today and you don't have the time or the resources to manage the tomorrow, so preparing for the tomorrow is difficult.

Q130 Sally-Ann Hart: Do you mainly recruit from Scotland and the UK or do you recruit from outside the UK? I will go to Mr Gomes first or Mr Anderson.

Luis Gomes: As we mentioned, it is international, it is a truly global industry, as Theresa mentioned. As such, the workforce is very global. We tend of course to hire a lot more people from Scotland, local, but we cast our net very wide in the search for experience in particular. Some countries have much more people available in certain areas and so we will hire from those countries, but our preference is to stay local if we can. It is less costly for us, but it is a global industry, so we are always going to have a percentage of people that come from abroad.

Q131 Sally-Ann Hart: When you are recruiting from outside the UK, is it from any country? Which country particularly seems to be trained in the space sector?

Luis Gomes: It depends very much on the areas, so traditionally—I am talking more of past experience rather than our current experience—some countries in Europe, for instance, provided many skills in what we call attitude control systems and system engineering. There were some countries traditionally such as Spain, Italy and Germany that produced lots of people experienced in those areas.

Q132 Sally-Ann Hart: Why do they produce more experienced people than we do?

Peter Anderson: They are the biggest investors in space, so they put the most money into ESA, they put the most money into their industry.

Luis Gomes: Many of the graduates who will go into those areas come from mathematics and physics. In the UK, there is a lot of competition for those skills from, for instance, the financial sector. Those countries don't have so much competition for those skills so it is easier for them. In other



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cases we are hiring, for instance, a lot from India these days. Turkey is producing quite a lot of highly skilled engineers. I had that experience from the past working with Turkish industry. Those are countries that are currently providing quite a lot of very skilled, very good-quality engineers and project managers that we use.

Q133 Sally-Ann Hart: Thank you. Ms Condor, to add to that, there seems to be a lack of women in the space sector. You are probably one of the few wonderful women working in the space sector. Why is this and what can be done to encourage more women to go into this sector?

Theresa Condor: I think historically it has to do with STEM education and the number of people going into STEM education and then graduating as engineers and being interested in space. We are seeing more women coming into this sector now though and I think it is because it no longer has this kind of, "Oh, I am really into Star Wars and I want to go to Mars and I am really into science fiction" but today it is much more about, "How are you making the world a better place? What are you doing about climate? What are you doing about more efficient supply chains?" and all these things, "What are doing about more efficient agriculture?" I think as the space sector is starting to be more and more focused on how space makes life better here on earth, we do start to see more people from different types of sectors and different types of backgrounds—I am not myself an engineer—coming into the sector and finding it interesting, understanding the mission behind why a lot of companies are in this sector. I think that is what it takes too, a lot of that type of discussion.

Q134 Sally-Ann Hart: It is a rapidly growing sector and you have an immediate need for skills, but looking at the long term, the new Advanced British Standard in education that the Prime Minister announced quite recently will take the best of A-levels and T-levels and replace them, bringing them together in technical and academic routes into a single qualification. The Government have cited education models of many European countries as proof that we need the standard, but a key feature of these countries' models is technical education from age 13 to 14. While the Advanced British Standard does not apply to Scotland—education is devolved—do you think that technical education from 13 to 14 in Scotland and in the rest of the UK, if people started technical education earlier, would facilitate more people entering the space sector? Who wants to take that first?

Luis Gomes: I can start, just because I myself started in a different country. I started my technical education at around 14, and I think it is an important aspect of showing people very early on what technology and science give you but then it can also be restrictive because then, conversely, you have people saying, "I haven't started at that point so I will not take technical education". It is a dangerous thing to just focus too much on that, but I think it is important. It attracts people at that age and gives them an experience of working in science and technology. We should—



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Sally-Ann Hart: A choice.

Luis Gomes: It gives them a choice, but we have to be careful with the opposite, that then people say, "Well, I didn't start. Even if I like it, even if I had a talent for it that developed a bit later in age, now I am not going to join the sector" or join the science and technology area. I think it can be a little bit dangerous.

Sally-Ann Hart: Flexibility is key. Ms Condor.

Theresa Condor: I don't have a lot of experience with the educational system outside of the United States, where we don't have that kind of specialty. I can see the benefit of having people at a young age getting exposed to it and being more interested in it, but at the same time the restrictiveness of you going into that route and having to decide very young, that is very different from how the US system works, the one that I am more familiar with. I feel like I don't have a great opinion one way or the other.

Sally-Ann Hart: That is fine. I will move on to the next question.

Chair: Before you do, did Mr Duguid want to come in on skills?

Q135 **David Duguid:** Very quickly, on the Advanced British Standard—and I have checked this on the Floor of the House—it is available to be adopted by devolved Administrations, but it is for devolved Administrations to choose to do so.

Sticking with the school education, it was very interesting to hear, Mr Gomes, your particular experience. I represent a constituency in the north-east of Scotland and I remember when I was at school, and it is still an ongoing thing, where the oil and gas industry would outreach to schools, and there is more and more renewable-type activity, local companies come into schools to basically get kids interested in that as a career, starting as young as possible. I just wondered if that is something the space industry is doing. Presumably your companies are doing something like that in the Glasgow area. Is it something that there could be an opportunity to do across wider Scotland?

Luis Gomes: One of the challenges that the space industry has always faced is with the diversity of skills that we need. We are talking about people coming from electronics, people coming from software, as I said, physics and mathematics. It is the kind of industry that requires quite a variety of skills and so sometimes it is difficult to go to young people and tell them, "Look, go this way, go this route or train in this".

We don't do enough and it is one of my objectives for the company, not just in our Scottish company, but globally, to interact more and to help more, for instance, high school children who want to do satellites or rockets. Particularly the US does have those kinds of activities more than in Europe or the UK, but there are activities where high school students can go and build a satellite. The kind of CubeSats we do open the door to



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that. That is a great way of bringing people into the industry, showing them it is not that difficult, learning the things that, for instance, I never learned.

David Duguid: It is not rocket science.

Luis Gomes: It is not rocket science. There are several groups in my own country. There are teams that are doing that. Even if they never launch a satellite, they at least get involved. One thing I would like to do is to bring high school children into our operations and allow them to develop software and codes that, for instance, they can upload into satellites. We have a few old satellites that are now reaching the end of life and we can use them.

Chair: I am just conscious we have another panel to come in and we have further work to consider, so back to Sally-Ann Hart.

Q136 **Sally-Ann Hart:** You mentioned, Mr Gomes, challenges in finding, recruiting and retaining more-experienced staff. In our previous session we heard concerns about new entrants into the market attracting staff from existing companies, in effect cannibalising these companies. Is that something you recognise? I think you did touch on it earlier, but perhaps you could spell it out a bit.

Luis Gomes: Yes. One metric is just about the number of jobs that you create on a new investment, but also Mr Ross's comment on scaling up and the growing and everything, there is a tendency many times to invite new companies into Scotland, and this happens also at UK level, offering them quite good terms, offering them money to come over to Scotland, forgetting that there are companies already operating in Scotland that have been successful and that require some funding to grow. What you do when you bring these companies to the metric of jobs created is that they have an obligation to hire a lot of people but there is a finite pool of experienced talent.

There is one case specifically: we lost five or six of our senior engineers in one week to go and work somewhere else and I had to go and—

Q137 **Sally-Ann Hart:** It wasn't Spire, was it?

Luis Gomes: No, it wasn't Spire.

Theresa Condor: No, it will be another company.

Luis Gomes: No, it is another company. There is this kind of rotation. We are in the same building so there is this rotation of staff.

Theresa Condor: We all know each other.

Luis Gomes: But this is another company, and at the same time I had to put up the salaries of all our staff quite a lot to defend this, and that is quite difficult. This is why I think sometimes looking at the long term, the metrics should be, "What is the long-term plan? What is the revenue?



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What is going to grow?" because if not, you just endanger the existing industry. We got into a lot of difficulties to deliver projects when we lost those people, so that is a dangerous thing for the existing companies when that is done. The phrase "heavy-footed" is probably what comes to mind.

Peter Anderson: That cannibalisation can happen internally as well in terms of some regional investment in facilities or investments being made in areas where it is not necessarily clear that there was already something there. I might give you the example in terms of small satellite testing. If the facilities that might be getting invested in are not almost local to the two companies sat in front of you, plus one other in Scotland, maybe Alba Orbital, who is using that, who is that for? I think a big part of this comes down to who is assessing the case.

I might even say about some of the external inward investment as well, who is helping those agencies and outfits to assess their business plan because I am sure it sounds great. They say, "We can do all these things, we are going to bring all these jobs, big boom". Who is helping those agencies to say, "Hmm, that is probably not a very good business plan"? Who is helping them to assess that, putting that question up and saying, "I wouldn't believe them necessarily"? They may not know themselves. I am not saying they are being unscrupulous, but certainly there is a lot of ambition in the industry and a lot of focusing, that they are going to rule the world. I can give you some good examples maybe.

Q138 **Sally-Ann Hart:** Not enough competition, is there?

Peter Anderson: No.

Chair: We will maybe just leave it hanging at that remark.

Sally-Ann Hart: Anything to add?

Theresa Condor: Just that I think competition is good and inward investment in Scotland is good. There has been a great effort to do that and at the end of the day we are all going to benefit from a growing sector that is more known. I think there have for sure been short-term cases that we are all aware of where everyone was slightly miffed at poaching versus trying to expand the skill base overall. I think that is a short-term problem.

Chair: I am sure you are not alone in developing sectors in trying to secure the skills that you require, but thank you all ever so much. I knew this would be a very interesting and fascinating session, and again thank you all for allowing us to visit and being so generous with your time. We have a record of the conversation that we will also add to the consideration of our inquiry and report, but for now, thank you ever so much. We will now move seamlessly to our next guests and we will not suspend the session, so if our next guests would like to come forward, please. Thank you.

Examination of witnesses

Witnesses: Reuben Aitken and Bryan Fraser.

Q139 **Chair:** I am sorry to keep you waiting, gentlemen. There was a lot of interest in that session, as you could tell, and some detailed questions as well as detailed answers, as we always get in Select Committees, but we will move seamlessly into this next session.

We now have representatives from Scottish agencies that support the sector. We will let them introduce themselves and perhaps tell us a little about what they do. We will start with you, Mr Aitken.

Reuben Aitken: Thank you very much, Chair. I am delighted to be here with Bryan. I am the Managing Director of International Operations at Scottish Enterprise, and as part of that I run Scottish Development International. Scottish Enterprise, as you well know, is the national economic development agency. Over the last five years, our work supported 75,000 jobs and an additional £900 million of tax take over that period. What we want to see though is more investment, more innovation and companies scaled to transform the economy. Scotland's space industry is a very positive part of that. It is on a positive trajectory.

Since 2016 we have seen a 65% increase in the business base, but I think that is the tip of the iceberg for the ambitions. You have heard that from the companies just before. We want to see 20,000 jobs and £4 billion of the global market share in Scotland by 2031 and that is a stretching target. There will be others who support us in delivering it.

To do this, we need to capitalise on the end-to-end opportunity from R&D to manufacturing and you have heard about launch, but focusing on space data. Downstream is particularly important and I think we will see the most serious growth in space-enabled data companies and what is often categorised as new space by the industry. We want to see that grow, alongside traditional space, and then we will get those near-term benefits on earth and the significant commercial opportunities that flow from them. I will pause there because otherwise I will wax lyrical, but I am looking forward to getting into the conversation with you today and I will hand over now.

Bryan Fraser: I am from our Business Growth division. We have responsibility for the delivery of advice and funding for growth SMEs. That is categorised into three categories: innovation, international and investment. As well as our account management service, we also have a range of specialist teams, so we have a flexible offer and we are able to tailor that to the needs of business at their particular stage of growth, whether they are an academic spinout, at early stage with high potential, likely to scale at pace, like some of the companies we have heard from today, right the way through to large companies, global FDI companies,



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where it is about expanding their operations in Scotland and building their engagement with the Scottish supply chain.

The majority of the businesses we work with and support are SMEs and we work with them directly through our sustained relationship and account management service over a sustained period to help them execute their growth ambitions.

Q140 Chair: I know you were both listening intently to the last session there, which was very informative. We heard a little bit just about what the sector feels it needs in order to develop and grow and some of the problems and challenges around upscaling, for example, have been mentioned.

What do you practically do to help the space sector? I know a lot of it comes down to resource and money and everybody wants more of that, but what, as an organisation, can you specifically offer the sector to help it deal with the variety of challenges that we heard about in the last session?

Bryan Fraser: We have a range of support and it is tailored, depending on the stage that the business is at. When they are earlier stage, that tends to be dominated by investment and innovation support, building the first commercial hires in the business, but when they get more to the medium size, it can be more around building through our workplace innovation support, developing people attraction and retention strategies, it could be larger R&D funding and innovation support, but also through to their exporting. That is the sort of support that we are able to provide directly through our specialist advisers. They are supported on occasions through our grant support, but it is also working across our partners to unlock support across the public sector in Scotland and beyond, collaborative funding that is available to support businesses as well as helping them with I guess their people strategy, which is a key thing we heard about earlier.

Q141 Chair: Of course with Scottish Enterprise, what we have heard is most of the activity is characterised as SMEs, small and medium enterprises. What distinction do you make for the space sector? What specifically do you do to assist and support it?

Reuben Aitken: I guess we work with both SMEs and global companies. On the SME side in the space sector, we tend to use a suite of products, whether it is advanced manufacturing support, skills support or export support and then we target that using our sector analysis and data.

Recent examples for instance are bringing together the industry with customers who previously might not have seen space data as the solution to their problems. This is obviously quite nascent, but that is what will drive the customer base for these companies, rather than being predicated on grant funding, so that is very specific to the space sector.



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Similarly, targeted export missions are absolutely critical. We had the UK's event last week. Before that my team was in Bremen taking a number of companies, getting them in to see primes overseas and to be able to make those connections, meet the buyers so that they can get our space products and services into market.

Q142 **Chair:** I see there is a Scottish Government space group. How regularly does it meet? Could you give us a flavour of some of the conversations and outcomes that these meetings might have?

Reuben Aitken: It is quite close-knit engagement. It is quite regular and frequent. When I was talking to my team in preparation for coming today, I did the first name test of, "Who is it that you call in the Scottish Government if you want to make progress on an issue?" and as long as they can tell me by the first name who it is, then I know the relationship works. So the relationship works, it has a good basis at working level and at a more senior level we engage in a structured way.

Ministerial commitment has been very helpful in this. Minister McKee previously was very much a keen advocate of the industry and we have seen that followed up by Minister Lochhead. He was out in market two weeks ago in Bremen, again promoting the industry, and he has been putting himself on to a global platform to promote it, so the relationship is strong, I think, between us and the Scottish Government. The teams are quite small, if I am completely honest.

Chair: You all pass the first name test then?

Reuben Aitken: Yes, exactly.

Q143 **Chair:** That is a relief, I think. So we will just say that you have an understanding about the sector, that you understand what it wants, you have an appreciation about the difficulties and opportunities. Is that how both of your organisations would see your relationship with the space sector, as good, reasonable, productive?

Reuben Aitken: Yes. I think we have very strong relationships with the sector. There will always be challenges; they are always going to want more in terms of funding and support but I think there is a good level of understanding. If it is rocket science, we are not rocket scientists, so we are not going to be able to—

Q144 **Chair:** We have heard that one several times.

Just lastly, and I don't know if you can help with this, we have this figure through that says that Scotland receives 3% of the UK's European Space Agency contracts. Is that figure accurate and where did it come from? Could you talk us through how we got to this number and whether it is something that is reflective of the size of the sector in Scotland?

Reuben Aitken: My understanding is that number is accurate and my understanding is also that it is not reflective of our fair share or the share that we would like to have in Scotland. I think the data, if I am right,



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relates to 2013 onwards and is over the last period how much of the public award we have managed to secure for Scottish companies. Our internal work at Scottish Enterprise says that Scottish companies account for about 14% of UK space GDP, so there is quite a delta there.

I think it does reflect some of the characteristics of our industry over the period during that period, so predominantly SMEs, where some of the contracts will have gone to larger players, and there are primes down south, whereas we don't have as many primes. However, I think there are inroads we can make into capitalising on that and turning that number around. What has been very welcome, from my point of view, I think there is an appetite in the UK Space Agency and in ESA to improve that.

Q145 Chair: There is quite a disparity if it is 3% of the UK's European Space Agency contract. You are talking about 14% of GDP. That is a big gap. Is there any explanation as to why it is so big?

Reuben Aitken: As I was setting out, the SME-dominated landscape means that it is harder to win those big contracts, getting the big procurements that the ESA sets out. If I am completely honest, I would be quite interested to see the dataset for the overall UK as well because I am not sure we bring back quite as much as we could. I think that it is meant to be geographically located, so you are going to get back what you put in.

Chair: That is how it was explained to us, so that is why we are interested in this figure. Maybe you could give us a note about that figure and how that was compiled and just where it came from.

Reuben Aitken: I think it comes from the Space Agency itself. Yes, very happy to.

Chair: If you could, that would be very helpful. Thank you from me. Sally-Ann Hart.

Q146 Sally-Ann Hart: Looking at the barriers to Scottish space businesses scaling up, we heard earlier that there are barriers. You have mentioned SMEs and applying for ESA procurement. Do you think that there is an issue with SMEs and Scottish businesses scaling up?

Reuben Aitken: There are real challenges. You heard that from the previous witnesses. I think there are also huge strengths that we can draw on. The strategic concentration of our companies means it is so important to collaborate to compete. You were talking about competition.

Q147 Sally-Ann Hart: Do they cluster?

Reuben Aitken: They do, and they could do it more. Obviously when you have very high-powered, very impressive spinouts, they get very focused on their niche, their R&D. I think sometimes our role is to broker and bring that together. We have seen some examples of that where



seed corn funding has led to significant collaborations. On the back of the sustainable space roadmap, we did not want that to be a dusty document, we wanted it to be active. With others, we put some small amounts—£360,000—into that. The 12 company projects came off it and we are now seeing collaborations between the companies that formed as a result of that. One collaboration has just won an ESA award, so there is a pipeline that you can take companies on, but it is quite labour intensive. Scaling up is very challenging.

More on commercial contracts is the other thing that you heard loud and clear from the previous witnesses and I think we are trying to broker that relationship again. If I am completely honest, as a former civil servant, I wouldn't have thought of space data as the solution to some of the problems when I was sitting either in Whitehall or up in the Scottish Government. I think there is an education piece and a piece of getting industry in there to explain what the problems are that those officials are facing and then what the solutions can be in a space-enabled way. That brokering again is something we are looking to do more of. The industry keeps developing so fast that there are increasing opportunities for us to do that.

Q148 Sally-Ann Hart: A question off the back of that: is there enough access to the relevant data so the SMEs can build strategies for growth? Is that what you are saying?

Reuben Aitken: SMEs are often treated as a homogenous group when they are quite varied, so your 20-person series-A raising finance might be quite different from your 150-person, that might have the regulatory nous and the ability to navigate some of the complicated procurement processes. There are different SMEs within the group. All of them I think could be supported by us to help with "meet the buyer" type events, so they are very clear at what they are targeting and what the opportunities are. I think there is an interesting challenge for us in terms of how focused we are in directing their energies. That was coming across from the previous panel, saying, "You could be more dictatorial in saying, 'These are the areas that we really want to focus on'" whereas I think we have tried to foster a competitive industry and allow them to drive the innovation because they have done such a good job of it, but providing more data and more insights is always useful to customers, to our clients, and businesses do come to us with all sorts of requests and we service those requests obviously for free. That is part of our service, yes.

Sally-Ann Hart: Sorry, if there is anything you want to add, Mr Fraser.

Bryan Fraser: Just on supporting SMEs, our account managers will work intensively with businesses, particularly at an early stage, to form their strategy and bring in other specialists to help embed the capabilities they don't have. Some of the things that we have done recently with businesses in this sector are workplace development, talent development and training plans so that we can accelerate that transferable skillset that we heard is missing into becoming more specialist with space expertise.



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We have equity finance products, but when you reach a larger stage as an organisation, they tend to be less relevant.

Recently we hosted a delegation of international VCs to come over and meet space companies so they can pitch. That has a dual benefit, raising the profile of a cohort of businesses to pitch, but also gives them access to institutional investors that they might not otherwise have the access to.

Q149 Sally-Ann Hart: Just looking at the VCs, we are quite good as a country, the UK, at investing in start-ups, but not so good in growing the businesses, scaling them up. Are the VCs able to give that extra funding or do the SMEs look to other funding to get that further investment in their companies?

Reuben Aitken: I hosted that VC delegation and there was a mix in there, so series A, B and C. The delegation was mainly tilted towards the earlier stage, the series A, because we had more companies to showcase at that stage, but there were some who would definitely be looking to do bigger ticket sizes and to invest in those bigger scaling-up propositions. We talked about space: you have to be global by birth in the space sector, so some of our companies have those right ambitions. What they are saying is, "I need to raise £10 million in order to be able to crack into the US at the moment". It is great to hear that ambition, so once we have that and they have a good business plan that we have worked on with them and an addressable market with their products and services, then we can definitely help to introduce them to some of those investors.

I will be taking to COP—again as part of a business delegation—some space data companies who can highlight what they can do in the climate space. Again, we will meet with investors in the UAE. I think that is absolutely critical in terms of helping them bridge that gap and matchmaking, so you do not have an investor who is only interested in smaller ticket sizes dealing with companies who are desperate to scale. They will all be looking at the business model though and the contracts and the revenue that these companies can generate, so they need to be serious and credible as well.

Q150 Sally-Ann Hart: So you are doing quite a lot to help the SMEs, looking at the funding landscape and supporting them.

You mentioned earlier other help you are doing with the SMEs. Are there any specific schemes in place to help businesses scale up and, if so, what has the take-up of the schemes been like?

Bryan Fraser: We do have initiatives around that, programmes, for example, our non-exec director programme and we have our venture fund, which we co-invest with the private sector into businesses, very much targeted at very ambitious, innovation-driven businesses like the space sector. The take-up is good. We have finite resources, so we are able to undertake prioritisation there. I suspect in this sector particularly that is growing, as is reflected in the growth in the company base.



Q151 **Sally-Ann Hart:** As far as you are both aware, what are the main reasons for why Scottish businesses find it difficult to scale up? Can you pinpoint any particular—

Reuben Aitken: Across the economy or just in space?

Sally-Ann Hart: In space.

Reuben Aitken: Commercial contracts are fundamental, and the process of navigating the requirements of ESA and other to meet the awards are challenging. One thing that we have heard, and you have heard it again today, is about government procurement, so when Government can act as that anchor. I have certainly taken businesses to meet other Governments, who have asked us that question of saying, "This is a fantastic company, fantastic service. Oh, does the Government back home buy this service?" and we have to sort of quickly move on to the next question because they don't yet at that point. That is an opportunity for us to turn the dial.

Finally around space, there is the fact that it is moving so fast, so there is a lot of competition for talent and businesses can end up finding is that there is someone next door coming up with an even brighter idea who can pay a bit more, then they lose their talent and then their plans for scaling are sort of stymied.

Sally-Ann Hart: Thank you. Mr Fraser, do you have anything, key things why?

Bryan Fraser: Not specifically. Talent is a big one, both in terms of the software and the engineering, but also commercial skills. A lot of the businesses at an earlier stage, maybe the academics have been out with some technical capability but we do have programmes and an opportunity to connect them with commercial skills. We can de-risk that at times through the provision of some temporary grant funding to make a first hire that makes the business more credible and able to fulfil the role of being more commercial as well, which is not something that they can do without that type of support.

Sally-Ann Hart: Thank you. I have no further questions.

Q152 **Douglas Ross:** Can I go back, first of all, Mr Aitken, to what you were saying about the potential? I think you said £4 billion of market share and that may be a stretch; is that correct? Just explain that figure to us.

Reuben Aitken: That is the target from the Scottish Government 10-year strategy by 2031. That is a share of a huge global market, so the overall global market will be over \$400 billion at that stage. It is achievable, but to be able to do it, it is a globally competitive industry space and folks who are our competitors around Europe and elsewhere are seeing that we have stolen a slight march and are looking to catch up on our progress, so we are—



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Q153 **Douglas Ross:** If that is a stretch, what is realistic?

Reuben Aitken: I think that is realistic. It is a good stretch ambition to have.

Douglas Ross: It is a stretch, but it is also realistic? It can't be both.

Reuben Aitken: I think you can have a stretch target that you also achieve. That is what we are aiming to do. I think the ultimate target is that we will take the industry as far as it can go with the skills and the budgets that we have. Demonstrating that commitment and that we want that market share is also a good signal to investors and others that we will stand alongside them and partner with this industry.

Q154 **Douglas Ross:** So you take these government figures out to the international market and say, "This is what the Scottish Government say about X, Y or Z. It is in our strategy; therefore can we get investment" et cetera?

Reuben Aitken: Yes. I think to—

Q155 **Douglas Ross:** So there has to be a lot of trust in these figures?

Reuben Aitken: Yes.

Q156 **Douglas Ross:** You previously came to this Committee back in March of this year when we were speaking about wind energy. You will know where I am going to with this. How confident are you that the shambolic episode we saw with the Scottish Government claiming that Scotland could have 25% of Europe's wind energy will not be repeated? Given what has occurred since then, Ministers potentially misleading Parliament and us writing as a Committee to previous SNP Ministers who have used wind energy figures, is there a risk that confidence in what the Scottish Government are saying as targets and what is achievable is diminished by the lies that have been told over wind energy?

Chair: Okay, order. Let's try to stick to parliamentary language, if we can.

Douglas Ross: Mistruths that have been told over wind energy. Does that have an impact in terms of you then going out with new figures in another area and the confidence that will have been diminished as a result?

Reuben Aitken: We have very trusting relationships with the investors and the global partners that we work with. People still do business with people and relationships are key. Whenever there are any errors in any sort of data and figures, we correct it and we make sure people are aware of that. We haven't seen any adverse impacts in our relationships with investors and others as a result.

Douglas Ross: Just on that, you were speaking about the 20 mega—I can't remember it—back in March. Were you aware of the corrections that



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had been made to the Scottish Government's targets back then?

Chair: Can we just—

Douglas Ross: No, I am just—because we are speaking about correcting.

Chair: Order, order, order. We are here to discuss the Scottish space sector. We do not have all that much time with colleagues from Scottish Enterprise. Is it possible that we might be able to stay on the subject so we can secure the best possible information and evidence from our witnesses?

Q157 **Douglas Ross:** I am happy to stay on the subject I was going on. In terms of corrections that you ultimately make, were you aware when you gave that evidence back in March that the figure for wind energy was not reliable?

Reuben Aitken: Was I aware at the time of the figures that we were using?

Douglas Ross: Yes.

Reuben Aitken: I always use the figures that we think are the accurate figures at the time.

Douglas Ross: Provided by the Scottish Government.

Reuben Aitken *indicated assent.*

Douglas Ross: There is some conflict now about when they first became aware. We were told that it was an outdated—

Chair: Order.

Douglas Ross: Are you not allowing this line of questioning, Chair? Just checking.

Chair: I am wanting to have a line of questioning that is at least slightly in line with the report and the inquiry that we are conducting today. Please conclude your question. Can we then move on to discussing the Scottish space sector and see if we can get some useful information from our colleagues on that?

Douglas Ross: Interesting sensitivity from the SNP Chair, so I will take on board what he said and move on to the point. You were in the room—

Alan Brown: You spoke over me before—

Douglas Ross: Sorry, yes. Mr Brown, yes.

Alan Brown: —when you didn't like my line of questioning, which I thought was out of order, but we are here to discuss the space sector.



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Chair: Okay, order. I think we have established that we are here to discuss the space sector and that is exactly what we are going to do. Mr Ross.

Q158 **Douglas Ross:** The point I was making—I am not sure what Mr Brown was saying there, it was difficult to follow—in terms of the question I put to the previous panel, and you were both in the room at the time, are there any examples where there are opportunities for Scotland to be promoted internationally that are not taken because of a link between the space sector and the defence sector because of ministerial beliefs in terms of promoting either or both of these sectors?

Reuben Aitken: I do not have any evidence of that being the case. We have prioritised the space opportunities according to the market opportunities that we see.

Q159 **Douglas Ross:** Would it be fair to say that Scottish Ministers are keener to promote the space sector than Scotland's place in the defence sector and at times there will be a conflict when the two come together at international events, for example? We have certainly heard of examples where people were surprised that Scotland did not have a stand or people representing Scotland to attract people in. You are nodding your head, Mr Aitken.

Reuben Aitken: Yes, this came up recently. I was engaging with the aerospace and defence sector body and a number of industry members in Scotland. The incident in question was a resource question. We have limited budgets. We would love to be able to promote more of Scotland's economy, and if it is the event that I am thinking of, there was a very good job done at promoting the industry by the primes and also by colleagues in DBT as well. Sometimes we have to pick and choose and we think, being very honest, having a small Scottish stand next to a huge stand for a prime does not necessarily give us the best bang for our buck, so sometimes we are really happy for industry to lead on the promotion. We are very supportive of what they are doing, and we have to just cut our cloth according to the budget.

Q160 **Douglas Ross:** Who takes that decision to make those choices and what is it based on?

Reuben Aitken: The decisions for Scottish Enterprise and for Scottish Development International are taken by me and the team. We will review the events for the next year and say, "What is the return on investment of this event over the last X number of years? What sort of sales has that generated? Do we think that is an area that needs significant support?" Then, off quite an extensive list, we can only do a small number.

During the course of the year sometimes more budget becomes available, and we can bump things up and we can add to it. We have to leverage the networks that we have and we do that to good effect. There are really strong examples—recently with DBT supporting Scottish companies that we did not have the bandwidth to support or supporting in markets



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where—I have 287 folks in 23 countries, but we have basically no one in Africa. If we are looking to target those markets, it is so important we use other sources to get into those markets where that is what our companies need.

Q161 Douglas Ross: You have heard the same criticism that we have heard. How do you respond to that? Is that something you will change going forward, that there was disappointment?

Reuben Aitken: We engage with the industry, and we always look at it based on the evidence. One of the things that I found coming into post, just in terms of how we collect data was that we did not collect it as defence necessarily. We would collect it potentially as advanced manufacturing or it would fall under our sectors in terms of our programmes, products and support.

One thing that I did with the industry was to try to set out with a bit more clarity: these are the areas that we do support, sub-sectors within that industry, and based on data we will be looking at the decision-making for the next financial year. We have been taking representations from the aerospace and defence industry, and also from a lot of other sectors who are saying, “If you supported us, we could also sell more. We could do more,” so it is always going to be tough competition and we are always going to base it on the data available around future export sales, which is our key indicator for the trade events and investment flows, which is the key reason we take companies out.

Q162 Douglas Ross: Finally, Mr Fraser, how do you view the work done by individual enterprise agencies across Scotland to help the space sector?

Bryan Fraser: We work well together, across the three agencies and with Skills Development Scotland as part of the business support partnership, to co-ordinate our support. We codesign products. We look for opportunities to bring cohorts of companies together. I think we can always build on that, that is for sure, and we would seek to do so. As a collective that works pretty well.

Q163 Douglas Ross: Say an area, Highlands for example, has two conflicting bids for investment and for support, do you think you have handled that well? Has it been handled well looking at it?

Bryan Fraser: Grant support?

Douglas Ross: Well, for general support.

Bryan Fraser: Yes. I am not aware of that being an issue. We run an active portfolio. We work with more than 3,000 businesses a year directly, with one-to-one support.

Q164 Douglas Ross: You have two spaceports, one in Sutherland and one in Shetland, both in HIE’s area. Does that cause any challenges, or do you think they have both been offered the same support, looking at it from a



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national perspective?

Reuben Aitken: There are four potential spaceports, all in HIE's area.

Q165 **Douglas Ross:** There are two that are extremely developed. Machrihanish, and others are nowhere near as advanced as Sutherland and SaxaVord.

Reuben Aitken: From my point of view, having the full end to end launch capacity right down to the data stuff that is a USP for us within Europe. From my point of view, I want both of them to succeed if possible.

Q166 **Douglas Ross:** You think HIE have supported them both identically throughout?

Reuben Aitken: We have not had any challenges, representations from companies that I am aware of about differentiated support.

Q167 **Douglas Ross:** Your evidence to this Committee would be that both these spaceports in the Highlands have been supported in exactly the same way to get them to this level?

Reuben Aitken: I think HIE is coming along to the Committee, so would be best placed to answer that in due course but—

Douglas Ross: We want to hear from you as well, which is why I am putting the question.

Bryan Fraser: Support for them would be approved by HIE. We can certainly find out if we have offered support and follow up but, yes, I am pretty sure it would be under HIE's delegated authority.

Reuben Aitken: I do not have any issue with how HIE has been dealing with it and I have not received any complaints.

Q168 **Alan Brown:** Returning to the defence theme briefly, you heard in the previous session both companies speak about the difficulty in bidding for MoD procurement contracts. There are a lot of barriers, as much because the companies are SMEs. Is that an issue of which you were aware? Can any support be given or is it really that changes to MoD procurement are what are needed?

Reuben Aitken: It is an issue for SMEs to go through large-scale government or ESA procurements. We know that ESA, for instance, has an SME outreach-type team to try to help them navigate the process. I do not know if the MoD does something similar, but it is certainly something we can pick up off the back of this to see if there is more that could be done to broker that relationship but, yes, it is something that is raised by the industry with us as an issue and a challenge.

One of the reasons for why many SMEs are focusing on more commercial solutions outside of the defence space and why we are supporting some of those SMEs with that journey, is that we think that that commercial



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new space data-driven opportunity is easier to capitalise on and easier to navigate.

Q169 **Alan Brown:** You mentioned ESA there, so obviously that is an issue that you are aware of for companies trying to bid in, so what resources are available to train or support Scottish SMEs to be able to bid in and get a much bigger slice of the ESA pie?

Bryan Fraser: There are bid-writing workshops and events that are put on by ESA directly. As for what support we can provide, we can bring in temporary specialists to support that process within a business. A key thing for us is trying to embed that capability within the business so they can repeat that process as they go forward.

Another thing that was mentioned is that sometimes for SMEs the way that ESA funding is administered can sometimes take a long time. The way the payments are structured can be off putting. Our support is geared around building the capabilities within the team and their understanding.

Q170 **Alan Brown:** Do Scottish Enterprise and yourselves actually have enough in-house expertise actually to be able to help businesses in this process?

Bryan Fraser: Not directly in that, but we can support the appointment of temporary specialists who can build those capabilities in teams.

Q171 **Alan Brown:** Would Scottish Enterprise fund that expertise to support businesses?

Reuben Aitken: Expertise to undertake an economic appraisal, which may be an important part of a business case that they need to submit, is something that we might embed into a company, for instance.

Q172 **Alan Brown:** There has been a lot about scaling up and so on but AstroAgency said in its submissions that in general there was a private investment gap across the UK space sector. Is there a private investment gap that you recognise in the Scottish space sector?

Reuben Aitken: Yes, there is a kind of systematic issue with equity funding across industries. It is one of the reasons that we have been in the early-stage market with the fund that Brian mentioned earlier and our co-investment model. That is a strategic gap that we have been looking to plug and we have been working on it for a number of years now. It is applicable to space and to other industries as well.

The angel investor community is actually quite strong in Scotland and that is a strength of ours. What that can mean is sometimes the venture side of things and the scale and pace that some of our companies want to go at does not find that it gets those sorts of investors on tap in Scotland. We are looking to see what we can do to help bolster that through bringing investors to Scotland and showcasing what there is to invest there and there has been some pretty positive feedback.



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The market is really tough at the moment and is going a bit slower than it has done previously, but we are optimistic, as long as we can present Scottish strengths to investors, that there is a good value proposition there but we do not have a big venture community on tap in Scotland.

Q173 Alan Brown: How do you assess what that private investment gap is, and then tailor what you are saying about bringing the vessels in? How do you assess what the actual gap is and the level of funding that is required and, as part of that, then bring the investors in?

Reuben Aitken: A lot of it is having one-to-one conversations with companies and understanding their growth trajectories, their ambitions and what finance they would need to reach them.

Brian mentioned earlier the account management model. We do work quite intensively one-to-one with a number of the companies and we develop business plans alongside them, export plans, all those sorts of strategies that they need to be investable.

Gathering up that data, we then develop different products that we can provide that can help bridge that gap. If it is beyond our financial envelope, there is the Scottish National Investment Bank. There is the British Business Bank. There is a series of others who can come in to partner with us and obviously there is the private market, which is probably the best place to be going for some of these investments.

Bryan Fraser: We also have our growth investment team specialists who can be brought in as part of our account team with the business to help to map out the funding requirements for a research service that can look at the size of the market to help bolster business plans to be attractive to investors, so we do have specialists in-house that can work one-to-one with businesses on identifying their total funding requirements, and how to sequence and phase those funding rounds.

Q174 Alan Brown: Is this aligned with scale up? Is this really what is needed to bid for ESA funds? Obviously, it is difficult for SMEs, but is it the reality that SMEs are not going to get enough money out of ESA, and it comes back to needing scaling up and needing further funding support?

Reuben Aitken: The design of the calls from ESA could target more of the specialties that we have in Scotland. There is a two-way information flow there that would improve the design of the calls that would help. If there was more about innovative data solutions, that would play to our SME strengths rather than some of the more traditional space calls that ESA have had in the past.

Q175 Alan Brown: Do you have a role in speaking to ESA about changing that? ESA is about openness, but how quickly is it going to move?

Reuben Aitken: We engage mainly through the UK Space Agency and then that relationship is through the space agency to ESA. That is closer. The space agency is a funder of ESA so it has more power in that



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discussion than we would have. We make sure that our inputs are made to the UK Space Agency and rely on the space agency to broker with ESA.

Q176 Alan Brown: Is the UK Space Agency nimble enough? There is a suggestion that it has to focus and maximise its overall investment in the space sector. That creates a bias in favouring pursuing larger investments at the expense of the SMEs. Is that a fair accusation of the UK Space Agency?

Reuben Aitken: Previously it has favoured traditional solutions. We have a good relationship with the agency. It has been up to Scotland. It has a relationship with our chair who has met the CEO quite recently. We are hearing the right noises about the direction it wants to go in.

Some funding was announced last week. We did not get the share of it that we wanted, but the direction of travel was more towards our strengths, more towards the innovation that we want to see. There are some green shoots there. We can always do more. We can always do better by working more collaboratively with these bodies.

Q177 Alan Brown: You were saying that we missed out on funding but the agency is making the right noises, so is there a clear plan to change that that is going to actually help SMEs and help that expertise in Scotland to access funding?

Reuben Aitken: As the previous witnesses were saying, it is about getting the industry together to engage directly and be able to articulate that. The fund flushed out some really good prospects, and some really good projects in Scotland. We now have those as examples that we can take to the space agency and say, "When are you going to open up another funding round because these will be fantastic things to add to the Scottish ecosystem, and the UK's ecosystem." That gives us some ammunition to be able to have those really robust conversations and gives us some concrete projects that we can work with the Scottish SMEs on to see how we could bring them to life through other means as well.

Q178 Alan Brown: Is there a timeframe on this? Is it just green shoots and optimism or is there a timeframe?

Reuben Aitken: The decision on the funding only came out last week, so we are digesting it still. We have not yet set a clear timeframe or got a commitment for when another tranche of funding is imminent.

Alan Brown: I realise there are still quite a lot of unknowns in terms of future funding and how that procurement is going to work. Right. Okay.

Q179 David Duguid: There has been a lot of discussion from this session and the previous panel as well about how—I think, Mr Aitken, you just said a moment ago that Scotland's offer with smaller SMEs provides some more flexibility and agility that you might not get from larger companies. We also heard from Clyde Space and Spire about how being a smaller



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company makes you feel as if you are squeezed out of some of the bigger funding decisions or some of the bigger contracts. Is that a fair summation of what has been discussed so far?

Reuben Aitken: I think those points were made by the previous speakers, yes.

Q180 **David Duguid:** Yes. There was a lot of discussion as well about defence contracts and defence funding. The Scottish Government chose not to be part of what is otherwise the UK-wide Public Procurement Act that was passed last year. Does that, in either of your opinions, cause a barrier to possibly being closer to public procurement spending, including defence, for the space sector in Scotland?

Reuben Aitken: That has not been raised by industry with me, so I do not have specific examples of where that has been a barrier to date, no.

David Duguid: Mr Fraser, any comment on that?

Bryan Fraser: Likewise, I have not had that feedback.

Q181 **David Duguid:** My other question is one I have often asked during this inquiry about the idea of having an end to end industry in Scotland. Could that potentially cause an issue by keeping the industry too small or smaller than it otherwise could be if it was seen more as part of a larger, holistic, UK-wide industry or part of a larger EU-wide industry or even bigger? Do we run the risk in focusing on this end-to-end strategy of somehow contracting or compressing the potential of the Scottish space sector? Either of you.

Reuben Aitken: It is a good strategic challenge that we have looked at a bit. Does focusing on end-to-end mean that you do not specialise enough in separate aspects to be super competitive? We think that the end-to-end gives us that competitive edge, but it is really important, when we are talking about launch, that it is not seen as the be-all and end-all. Launches are fantastic but they are a way of learning and so I do see that there are risks for us in pursuing that end-to-end solution because, as we have seen recently, launches do not always have successful outcomes.

I think you were saying this earlier about educating folk so that people understand there are still huge amounts of learning ahead and that the best companies in the world who do this do have a lot of failures and learn from those failures, and that is part of the process. That is really critical as we pursue end-to-end. End-to-end is fantastic, but I think the data side of it as much the jewel in our crown. I think we will see value from Edinburgh's strength in data analytics, as much as from the eye-catching value of a launch. I like them both and I do not think there is a problem with focusing on end-to-end as long as we make sure people understand that it is not always just that.

David Duguid: It is not just the end to end.



Reuben Aitken: Exactly.

David Duguid: It is being part of the bigger picture as well. Mr Fraser, anything to add?

Bryan Fraser: No.

Q182 **David Duguid:** Okay. Going back to SDI, Scottish Development International, how does Scottish Development International working with the UK Government identify gaps in either the UK or the Scottish capability that should or could be benefiting from more inward investment?

Reuben Aitken: We are very data-driven on this, sector by sector. We work closely with DBT and with the Office for Investment, the OfI, more recently as it has come into being.

There is normally a supply chain analysis and then a process by which we qualify those leads: we think that there is an opportunity; we think there is a gap in our supply chain; we think it is going to be hard to grow that domestically in the timeframes that we need; then we go to work in the market with that company to make sure our desk-based research is appropriate and accurate. Then we work out the strategic fit between us and the company. Then we take them through a process by which we try to land them in Scotland to the benefit of the Scottish economy.

Q183 **David Duguid:** How do you work with the Department for Business and Trade in terms of not just having that one-to-one relationship with potential inward investors but actually in the process of coming up with trade agreements or memoranda of understanding? For example, there were DBT memoranda of understanding recently with Florida. I would imagine that would spike a lot of interest in the space industry in Scotland. How does SDI work with DBT when those discussions are actually taking place?

Reuben Aitken: In the market, there is some very close working. The majority of my field staff are based inside the embassies, so they sit right next to the DBT guys, and they can talk it through.

I engage very regularly with the director in DBT who is responsible for engaging across the nations in a number of sectors. We have an executive forum through which we regularly engage with the directors general across DBT. Most recently we looked at what propositions we were putting out there and also at how are we monitoring and evaluating our performance and making sure that we are sharing lessons learned and sharing what we think the upcoming targets should be.

Sometimes it is a real science and sometimes it is a bit of an art to work out what the growing trends in the economy are that you are going to go after, so where we are going to be really proactive. Space has been a target area for us for the last wee while.



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David Duguid: Mr Fraser, I see you fidgeting there. Do you want to come in?

Bryan Fraser: No, no.

David Duguid: Oh, you were just fidgeting?

Bryan Fraser: Yes, just fidgeting.

Q184 **David Duguid:** Sorry to stick to the SDI side of things, but this next question could be something that Mr Fraser might want to come in on. How important is it to measure when you are looking at the value of inward investment or potentially putting conditions on future investments; how important is that? Again, this was touched on in the previous session, the creation of new jobs and the numbers of new jobs being created versus I think what Mr Gomes referred to as more-sustainable, longer-term growth. Should we be looking at both those things?

Reuben Aitken: It is 100% both of those things. When we are landing an investment—particularly if we are supporting the company financially—we go through a rigorous process, a five-case business model that has an economic appraisal in it and evaluates what the impact of that partner is going to be. Then we tend to work with inward investors in the long term. We want a long-term partnership where they grow in scale their opportunity, their investment, and double down. It definitely is not a kind of one-and-done type relationship.

As part of that, we also look at displacement. As part of the economic process, we consider the economic displacement that would occur as a result of that investment and the overall GVA, so at the impact that we think it would have on the Scottish economy. We have a bit of dead weight in there as well to account for optimism bias and those other things that some of the previous witnesses were talking about.

Inward investors pay higher wages and so there is a way that the inward investors drive up productivity, drive up the performance of the Scottish economy, but that does sometimes create friction, which you heard about.

David Duguid: Mr Fraser, any last thoughts?

Bryan Fraser: Another thing is spillover benefits, the opportunity to engage with the Scottish supply chain for a new inward investor coming in that would be something of an opportunity, regionally and nationally as well.

David Duguid: Thank you very much. No more questions.

Q185 **Mark Menzies:** Thank you both for coming to see us today.

As you are aware, the Committee visited Glasgow and we saw some absolute outstanding examples of how the Scottish space sector is



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working. The impression I went away with was these companies could only really succeed and continue to grow and thrive if they were supported in the right way within the international community and were operating in a truly global environment. With that in mind, what do you see as being the main opportunities for Scottish space companies to access international markets? Could we start with you, Mr Fraser?

Bryan Fraser: That is for our trade supporter.

Reuben Aitken: There are definitely some target markets that we want to support companies into. One of the interesting things for us is that some companies and some partners do not realise the capabilities of space-enabled data, so there is a new series of markets and sectors that we can open up. There are some interesting partnerships developing from Australia to closer to home, to Europe, where we have opportunities for our companies to export their products and services, really that data service that are they are in essence. Even a lot of the manufacturing companies are space data companies, and what they are really commercialising is that space data. What is great about that is that it is replicable.

If you can do it to demonstrate what is happening to crops in Scotland, you can do it to demonstrate what is happening to food security and crops all over the world. Hopefully, it is a replicable model to take globally if we can get it working domestically. However, you do not have to start domestically. Some of them are global by birth and are doing things in different markets that they are not doing at home.

Q186 **Mark Menzies:** I recognise a lot of the value that you do. You do some really important work, so please do not think that the next series of questions is taking away from that. I am just trying to probe something.

You mentioned you are a small team, so how do you utilise that small team when you are being stretched, you have huge demands on you and everyone wants a piece of what you have to offer? How do you make sure that you are giving those Scottish space companies the best possible service? Where I am actually going with this is: how do you link in to DBT and the embassy network? How does that all fit together?

Reuben Aitken: The answer to the first part of that question is about prioritisation. We have to make all sorts of unpleasant prioritisation decisions day in and day out, and I would love to do even more with the space sector, but we have to cut our cloth as to how much we can support.

Given that, we have prioritised. We have tried to find time to prioritise it and carve out budget lines and experts who can work alongside the sector, build their trust, be at those trade events and trade shows, so that they know them and trust them, and have those relationships. We prioritise and space has definitely been within our priorities.



As for how it works with DBT, on space it works really well. There have been some nice examples in the last few weeks of DBT bringing delegations, for instance, to Northern Ireland and then saying, "While they are in Northern Ireland we can bring them over. It is not far. We can nip them over to Scotland. Could you put together a programme, though, because you will know the Scottish strengths better than we will?" and of course, we can. There are some really good joined up examples of working. It helps in a way that the DBT space team is also quite small. They pass my first name test, "Do you know who you call in DBT?" "Yes, it is X." That is positive. In the embassies overseas, apart from in the US we are on the FCDO platform. So in other countries, there is close working by the fact that we are cheek by jowl.

Q187 Mark Menzies: With that in mind, how would you work into His Majesty's Trade Commissioners, who would set the strategy for those regional markets so, for example, for Latin America? I will let you take that.

Just to be transparent, I am one of the Prime Minister's trade envoys. I cover Chile, Peru, Colombia and Argentina. Two of those markets where in the past there has been some satellite activity potentially involving some interest with Scottish companies.

How would you make sure that the work that you are doing is feeding into the work that the trade commissioner is doing so that everyone is aligned and that you are on that strategy? How do you achieve that?

Reuben Aitken: There are some exciting opportunities in deforestation in Latin America, particularly in what you can do in terms of data science to analyse what is happening. There will be big opportunities in green finance, in particular—this is not greenwashing—we can evidence, say, that this coffee was produced sustainably because look at the satellite data, so that is really positive.

I do not have anyone on the South American continent. I have someone in Mexico but nothing below that. It is vital that I work with the trade commissioner and the deputy trade commissioner, both in Sao Paulo and up in Mexico. We have good relationships with them.

Q188 Mark Menzies: I will just stop you there. Are you able to say to them, "Look, these are our priorities. This what really matters for Scotland. We want to make sure that we are all aligned and that, within your space strategy piece, this is the bit that we think we can deliver"? Are you able to have that conversation and do you feel that then gets built into a plan that you are all able to work together on?

Reuben Aitken: We can definitely have that conversation. That is really easy, and we have done that to date. They phone us up and say, "We are bringing some companies back to the UK on a roadshow. Which areas do you want us to target? How can you support them? What are the assets that you want to showcase in Scotland?" and vice versa.



Q189 Mark Menzies: The next bit and this may be for you but also for Mr Fraser, I can see that where the value would add around that direct investment, identifying potential locations, partners, holding their hands and introducing them to what Scotland has to offer. How often would you be asked that question by DBT or do you find that DBT might do its own thing without getting you engaged throughout that journey?

Reuben Aitken: There is a global investment summit today and I am not invited to that by our partners, so that is potentially an example where it has not worked perfectly, However, I do think there are examples where it does still work, and it does work well.

The UK has moved towards a value metric in terms of its FDI, so it is looking at the scale of the project rather than the number of projects. There is meant to be a referral mechanism by which things get funnelled into us. At the moment it works in spite of the systems and processes, rather than because of the systems process, because it is actually a smallish world, and we know each other. They will phone us up and say, "Are you engaging with X, Y and Z investor?" or we do likewise.

Often it is really important for the investor to have each line of a public authority lined up. They want to know that the local authority is on board. They want to know the Scottish and UK Governments are on board. We have to be able to provide as an account team that one-stop thing where, "You deal with me and my team, but we bring in the whole of the team that is going to land you here." That is a concierge service. It does not always work but it is always the model that we are desperately trying to pursue because that is what matters.

Mark Menzies: You think that bit works well?

Reuben Aitken: That works well, but it is based on relationships at the moment, rather than a slick process or system that operates between institutions.

Mark Menzies: Mr Fraser.

Bryan Fraser: That kind of area is all Reuben's side.

Q190 Mark Menzies: If it is any consolation, I have not been invited to the global investment summit either and, as I said, I am one of the Prime Minister's trade envoys.

Just to finish up, one of the things we have had is a lot of evidence to say that the focus is on the Scottish established strength and small satellites. Are there any other sectors where you think Scotland has the ability to work to be world leading and are there any learnings that you can pull out from the work you have done on satellites in order to help those sectors to develop?

Reuben Aitken: I would obviously rather be here, Chair, than any sort of dinner elsewhere.



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There are some interesting parallels potentially. The thing that sprang to mind for me is quantum. Space is not really a sector. There are all sorts of different sectors that operate within it, and you see a similar thing in quantum. Its unifying purpose is quantum; it is quite difficult to understand and there are some very clever people operating in that sector, but it is not a traditional business sector.

There are opportunities for us to learn lessons of how to create industries and specialisms, for instance in that sector in the same way that we have tried to do with space. Some of my colleagues, who were in the business 10 to 15 years ago, say that when they began to talk about space and the opportunity that this was going to be for Scotland, 10 to 15 years ago there was a wry smile and people did not really take them seriously. Now they are delighted. Therefore, it is making sure that we are really alive to those opportunities when people see the potential to scale up innovation and to drive it forward. It is being alive to that.

Q191 **Chair:** Thank you. Just one last thing from me as we are talking about the international opportunities for the space sector in Scotland. Does SDI use any particular communication strategy when it is trying to reach a foreign marketplace and particular individuals?

Reuben Aitken: We tend to do quite targeted campaigns based on whether we are targeting a specific CEO of a company that we want to make an introduction to, or whether we are doing something a bit more generic in marketing in terms of "Think Scotland, think space." We have a good story map. I could send it to the Committee after this.

Q192 **Chair:** Could you do that, so we get some sort of sense about how you do promote and what sort of strategy you use? Would you describe it as being successful?

Reuben Aitken: I think so. The most significant investment last year was in a space FDI project. That is a huge opportunity. That has borne fruit, and we are in discussions with some other serious players who are looking to Scotland now and who have begun to be attracted by the fact that their peers or their competitors are there and so I think it is successful and I would be delighted to share on that.

Q193 **Chair:** Also, because we will have end-to-end capability, which is really important too as an international destination.

Well, thank you. I know you would much rather be here, Mr Aiken, than any other place that might be of equal importance or excitement. To both of you, thank you ever so much, and you were going to send us something through. I cannot remember what it was, but I am sure the Clerks will send you a note.

Reuben Aitken: On the 3%.

Chair: Yes, the 3% thing. That is exactly it. It would be very helpful if we could get that and anything else that you feel you could usefully



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contribute. Of course, we would like to hear anything further you have to contribute to this inquiry but that is it for today.