



Northern Ireland Affairs Committee

Oral evidence: [Investment in Northern Ireland](#), HC 792

Wednesday 19 January 2022

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Members present: Simon Hoare (Chair); Scott Benton; Gregory Campbell; Stephen Farry; Sir Robert Goodwill; Claire Hanna; Fay Jones; Ian Paisley; Bob Stewart.

Questions 54 - 91

Witnesses

[I](#): Dr Robert Grundy, Chair, Matrix, The Northern Ireland Science Industry Panel; Professor Emma Flynn, Pro-Vice-Chancellor (Research and Enterprise), Queen's University Belfast; Philip McBride, Belfast Managing Director, Thales UK.

Written evidence from witnesses:

- [Matrix - The Northern Ireland Science Industry Panel](#)
- [Queen's University Belfast](#)
- [Thales](#)



Examination of witnesses

Witnesses: Dr Robert Grundy, Professor Emma Flynn and Philip McBride.

Q54 **Chair:** Good morning, colleagues, and good morning to our witnesses, Professor Flynn and Mr McBride, joining us virtually, and Dr Robert Grundy, joining us here in Westminster in person. To the three of you, you are very welcome and thank you for finding the time this morning to take part in our inquiry on investment in Northern Ireland and the general picture.

I want to start by asking the three of you to give us a general overview of the investment picture as you see it, in terms of business confidence. Given the inflation figures out this morning, do you think that might have any impact at all on your assessment and the view of business?

Professor Flynn: In terms of my reflections, we have had a lot of analysis about this, especially in terms of Covid recovery. We have had the 10x strategy come through. We have had the Nesta report from Richard Jones. They are all pointing to a need to increase public investment, with a view that that could be followed through with private investment.

The increase from the comprehensive spending review around investment, in terms of R&D, is a really welcome addition and inflation, in terms of what the opportunities are within Northern Ireland. We have seen a significant amount of investment, especially through Queen's and our interaction with industry over the last couple of years, in terms of things like Strength in Places and our work with Thales.

There is a possibility, but we absolutely need to have a co-ordinated partnership approach and to be doubling down on where there is a real possibility to be able to make the change we wish to see. It is only going to work if we see an increase in investment that will be followed by industry. That would be my position.

Dr Grundy: Thank you for the opportunity to speak today. It is very much appreciated. I would echo much of what Emma says. We work very closely to make sure that the funding, as it comes into Northern Ireland, especially Government, is directed towards the areas that we feel can have the most impact for the whole of the UK.

This is particularly important as you mentioned inflation rising. Prosperity for people in Northern Ireland is key. Directing any investment towards area that will increase that prosperity is absolutely vital. A very joined-up and well-informed approach to apportioning that investment is really important.

Q55 **Chair:** Could you clarify? Is that geographical apportionment or sectoral?

Dr Grundy: It is both. One has to look at Northern Ireland and look at its strengths. You cannot spread the jam too thinly. There are certain



sectors in Northern Ireland that require an emphasis of funding in order to achieve impact, both locally and for the UK. We can go into the granularity of those sectors at any point you wish to do so. There needs to be a strategic approach to investment and that needs to be coupled with encouraging private investment with the correct tools and devices that allow Government investment to complement and attract that private investment. That then comes across as a very cogent strategy that appeals to the private sector.

Q56 Chair: I am sticking a microphone under your nose. I am asking you to pick, if you could, to allocate funding, interest and energy towards three sectors of the NI economy. Where would you choose to put it?

Dr Grundy: This is always a tricky question, because you inevitably end up alienating certain people in certain sectors.

Q57 Chair: Clearly you cannot spend the money, so this is all purely theoretical.

Dr Grundy: No, absolutely. The 10x strategy, as Professor Flynn outlined, mentions a number of key sectors. I would go for tech, which covers a multitude of areas, but particularly cyber, fintech and the creative technologies within tech, which Northern Ireland is particularly strong in.

We cannot ignore manufacturing. We have a legacy of manufacturing excellence, but that is contemporary also. The recent Strength in Places award for advanced nanomanufacturing betrays that.

There is also life sciences. Many regions can claim to have excellence in life sciences, but Northern Ireland particularly, with its private sector excellence around diagnostics, is a great place to exploit life science technology, research and the provision of health and social care and its interaction with innovation.

Philip McBride: I would certainly echo what Dr Grundy has outlined, in terms of sectors to invest in. I come from a defence background myself. I am chairperson for the ADS Northern Ireland Council and sit on the national council. That is the trade body looking after aerospace, defence, security and space. Naturally, I would have a bent towards that sector. It employs over 10,000 people in Northern Ireland and has revenue generation of over £1.5 billion per annum, so it is clearly important as a sector in the province.

Investment in the defence arena is important. I do not say that merely because I work in the defence sector. It is the investment that will drive many of the other industries and supply chains within Northern Ireland, which I feel are somewhat underinvested. MOD itself, in its "Defence in a Competitive Age" report in March 2021 outlined that Northern Ireland is one of the weakest-funded areas of the UK, with £40 per capita spent on defence in Northern Ireland, versus £290 in Wales, £380 in Scotland and between £500 and £1,000 in England, depending on the region. The



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impact on the local economy in Northern Ireland could be enormous, in terms of defence contracting into Northern Ireland and the subsequent impact on the supply chain.

Q58 Chair: We heard last week from our witnesses with regard to the sorts of things over which there is political control, which are the importance of political stability and regulatory certainty for business and investment confidence. I wondered whether you could share your views on those twins.

Professor Flynn: If I switch it to a slightly different approach, in terms of retention of talent, there was a pivotal report recently about retaining young people in Northern Ireland. One of the biggest issues making people want to leave Northern Ireland and not study within the university sector here is the political instability and political landscape. That is the evidence that they have found. I suppose in terms of retaining talent, which is an absolute critical pipeline into R&D, that is one of the areas of concern.

In terms of the regulatory landscape, I see that there are opportunities here. I know that we have been talking about things like reg tech and having a centre here, in which we would have investment, where we would become a national centre for regulation technology. That can potentially be within both the UK and the EU, and we can use that position to our advantage, rather than anything else.

I do not think it is possible for me to talk about industry confidence at the moment, because I am not an industrial body. I see that we are having lots of conversations with industrial partners within Northern Ireland and beyond about future projects and what they would like to do in terms of working with Queen's.

Dr Grundy: There are two parts to the question. In regard to political stability, if you are a private investor looking to make a foreign direct investment into a jurisdiction, you are looking for excuses not to do it. Political instability is a good excuse not to invest, so it is paramount that we have political stability. If you are a private organisation, you want that to be guaranteed, in terms of your geographical investment.

In terms of regulatory certainty, that is a separate question. Of course business cases are built upon an environment in which one can operate. The regulatory environment is key to that and certainty around that is, again, paramount. Otherwise, the rules of engagement change once you have made that investment. For Northern Ireland in particular at the moment, we have the potential and the opportunity to have regulatory differentiation, which we can exploit to the benefit of Northern Ireland, as we look for people to come and invest here.

Philip McBride: Again, I would echo the comments made by the prior witnesses. One thing I would raise on top of that is that political stability is from two angles. In the aerospace and defence business, which is very



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much an export business from Northern Ireland, from the UK, we need confidence in UK stability, from a political point of view. Obviously, we are going through trying times, so it is really important that other Governments look to the United Kingdom as a stable place to invest in.

If we make it more local to Northern Ireland, that becomes even more acute for me, because I do not do any business in Northern Ireland. All of my business goes to GB or beyond, so it is really important that foreign Governments look at Northern Ireland as a place that will not go back to the bad old days. None of us wants that and none of us thinks that will happen, but that is not the sense I get when I travel round the world. The media plays a big part in what people believe. For me, political stability, both locally and at national level, is implicitly and explicitly important in ensuring that we have the ability to sell our services, products and solutions overseas.

From a regulatory point of view, like many others in the ADS community, I find myself in a bit of a cleft stick at the moment, hoping that there will be no further divergence of legislation between Europe and Northern Ireland in terms of the protocol. I have situations among the membership, myself included. On simple things that you would imagine are simple—coatings, treatments on metal surfaces—I am obliged to stick to EU regulations on REACH, whereas in GB I stick to UK legislation. That might not seem like an important feature, but it is an important feature when I move goods from Northern Ireland to GB. If rules diverge further, that will have an impact, so regulatory commonality between Northern Ireland and GB is becoming more and more important to our industry.

Q59 Ian Paisley: Those last comments by Mr McBride about the responsibility of the media internationally at times are very telling. I thank him for making them. I want to go back to something Dr Grundy said. When you were giving your wish list to the Chair, I am wondering whether, when you said “manufacturing”, you were including in that agrifood processing. Would that be part of that, in terms of mechanising that and trying to address the labour skills shortage by putting in mechanics to resolve some of those issues?

Dr Grundy: There is certainly an opportunity in agrifood manufacture. Automation across the industrial landscape in Northern Ireland is an important topic, as it is for any jurisdiction. There are opportunities for the key businesses in Northern Ireland to produce, process and export foods and to be more efficient. That requires investment.

If we can make those companies more efficient, they can be more competitive, represent Northern Ireland and contribute to the prosperity of Northern Ireland by the provisions of jobs and contribution to the Exchequer. Yes, absolutely, it is a key sector and would benefit from investment in science and technology, from my point of view.

Professor Flynn: I would absolutely agree with Rob and with the sentiment of the question. Sometimes, when we are talking about



sectors, it is not that helpful, because the interface is where the interesting stuff is happening, so digital health, agrifood manufacturing, cyber and manufacturing. All these things could be separated, but the power comes in the interplay of these things. Green and sustainability is a really good example of this, because it covers everything that we do, but yet it is seen as a separate sector. It is to absolutely echo what Rob has said. I would add agri into that wish list, but it is more important to consider what the challenges are, as opposed to what the sectors are, as such.

Bob Stewart: In the good old days, before the bad old days, Philip—

Chair: Do you want to narrow this down into some sort of timeframe? Are we talking during the Roman conquest?

Bob Stewart: The 1960s.

Chair: Is that good or bad?

Bob Stewart: I was terribly impressed when I visited Short Brothers with my father to see the first vertical take-off and landing aeroplane that looked like a bee. Do you remember, witnesses? You are too young.

Chair: They are all too young, Bob.

Bob Stewart: It went up. It was amazing.

Chair: This was the one that Leonardo da Vinci had devised, was it?

Bob Stewart: The Chair is really unfair, but it was not far off those days. The reason I say it is because, from that time, because I was a teenager, I was incredibly impressed by what had been achieved in Northern Ireland. I am talking about the technical expertise that resides there. From that has come my belief that Northern Ireland has never ever actually been able to demonstrate what a great workforce it can have.

You have the Titanic if you go back. I was not alive then, by the way. You have the Titanic and all that. That sort of heritage is huge. Somehow or other, we have to get back to that as soon as possible, because you have great companies. By the way, my brother sold electronics worldwide for Thales a few years ago. I do not know whether you ever met him.

Chair: Bob, might we have a question?

Q60 **Bob Stewart:** I am so sorry. I should be shorter. Based on my experience, what are the real economic challenges facing Northern Ireland? Professor, what do you think are the real economic challenges facing Northern Ireland?

Professor Flynn: As I said earlier on, it is skills retention and attraction. It is making sure that we have the workforce that can deliver if we get that R&D investment, making sure that we have a strong pipeline of talent all the way through schools into universities and companies. They



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are going to be the people who are making the changes within the companies, to setting up new companies.

We in Northern Ireland have a diverse economy, but it is heavily SME. We need to make sure that the investment we have is, long term, a variety of different sorts of funding streams that fit that economic base, those SMEs and the big multinationals that we have, and that it is end to end. It is about support all the way through the idea of a start-up, through scaling up current businesses, all the way through to working with current multinationals that might be based here, and also attracting them. You need to have a flexible portfolio that can meet all of those needs. We currently do, but we need a better quantum of that.

We are seeing changes and pushing the dial with some of our big Strength in Places awards. This is £40 million of investment for big multinationals working in consortiums with small and medium enterprises. We also need to be seeing an uplift in things like knowledge transfer partnerships and studentships in all the different sorts of portfolios of funding that we have. It is about focus as well. We talked about the sectors, so not, as Rob has said, trying to spread the jam too thinly, but really focusing on where we can see the change. It is skills, co-ordination, partnership and the funding portfolio.

Q61 **Bob Stewart:** Robert, in your answer, could you say whether you agree or disagree that there is enough technical training at schools and universities in Northern Ireland to feed in for this technology and industry? So many people seem to leave Northern Ireland to come back to the mainland, which is something we want to try to stop.

Dr Grundy: You are in danger of leading me down a favourite rabbit hole of mine, which is the focus of STEM education in schools in Northern Ireland. In Northern Ireland we have excellent schools, but they suffer from the plague of competition in school performance leagues, which is to the detriment of the education as a whole in Northern Ireland. We have some very high-performing schools that we are very proud of.

I fear that the young person who is making choices at 14 or 16 is steered away from hard subjects, such as physics, higher maths or engineering-type sciences, towards subjects that are perceived to be easier to attain higher grades in. If I had a magic wand, I would wave it and recalibrate the weight of a C in physics compared to an A in perhaps history. Apologies to any history graduates in the room. You take my point.

Chair: I am one, Dr Grundy. You are on thin ice.

Dr Grundy: I apologise, Mr Hoare. My point is that we have the potential to have an exemplary output, in terms of education, from secondary, higher and further, but we need that focus. That focus needs to be aligned with the sectoral focus we choose. Science and technology will



drive greater prosperity and it is absolutely appropriate that we emphasise that.

Philip McBride: As a physicist myself, I will make a comment. I agree that we have excellent multi-campus universities in Northern Ireland. We are almost spoiled for choice in terms of the breadth of education and learning. We have good regional colleges. Schools, as Dr Grundy has outlined as well, are excellent.

The economic challenge for Northern Ireland is twofold. For me, it is about strategic investment. There is a lot of investment in Northern Ireland and city deals are a big investment. My fear over city deals is that they need to be looking at 20 or 30 years of sustainable growth.

The other issue for me is scale. We have a lot of small and medium-sized enterprises in Northern Ireland. It would not be that long ago that over half of our SMEs were less than 20 employees. Quite frankly, it is hard to compete in an international marketplace when you are small. I am not saying that large is good, but you need scale to drive efficiency and effectiveness. Those are the two things that I would like to see Government, both national and regional, focus on. It is wealth creation in the nicest possible sense, not for me as an individual but on a national scale.

Q62 **Fay Jones:** Good morning. I wanted to talk about the economic strategy that was published last year. Can I ask you all if you might tell me how much involvement your sectors have in the design of that strategy? How much input do you have? Is it an ongoing sort of dialogue?

Dr Grundy: Certainly, Professor Flynn and I were both involved, or consulted at least, in terms of the formation of the 10x economic strategy, which I think you are referring to. We tried our best to inform Government as to the areas of focus where we thought there should be emphasis.

Also, it was important that we contributed to the spirit of that document. It is called 10x for a reason and that betrays the ambition of the plan. We need to be very ambitious, perhaps over-ambitious, in terms of our intentions for that particular economic plan. Northern Ireland requires that level of ambition. Northern Ireland is an exceptional place—exceptional geographically, politically and in its exposure to conflict over the past 50 years. It has exceptional people and exceptional potential. That potential will not be fulfilled if we treat it like the rest of the UK.

That does not require distributing funds as if 1.8 million people were glued on to the Fylde coast. That requires a circumspect reflection on what Northern Ireland needs. That comes through in that economic strategy. It is ambitious, but it chooses its sectors carefully. Hopefully, our Government and everyone involved in driving that forward will stick to the plan, in regard to adhering to the sincerity of that document and its focus, helping push things forward and achieving that quantum. It is a



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bit like "Shoot for the stars, reach the moon". The moon would be very nice, thank you very much, in regard to what we need to achieve in Northern Ireland.

Fay Jones: You have answered my supplementary question as well, but I might come back to you on that. Professor Flynn, perhaps you might want to add to that.

Professor Flynn: I absolutely echo what Rob has said. I have worked across the UK, in the north-east, Scotland and the south coast, and I have never worked anywhere where there is such a strong regional partnership as in Northern Ireland. Although we are based in Belfast, the reflection that we have from Queen's is across the whole of Northern Ireland.

Something that we have not touched on is linking up Northern Ireland to the rest of the UK, which is really important and part of the 10x. Absolutely, that partnership has been part of the development of the 10x strategy. It is no surprise that the strengths that there are at Queen's reflect the strengths that we see in Northern Ireland and that are coming through in the 10x. I would just say yes, absolutely.

This really has not been choreographed, but last week I had a meeting with senior members in the Department for the Economy exactly about the role Queen's will take in delivering against the 10x strategy and what our plans are in terms of Queen's Strategy 2030, which we are currently writing and looking at the action plan for. It is absolutely an integrated approach, understanding our role as a key anchor partnership. We have absolute buy-in to this 10x and we understand our role and the part that we need to play in the delivery of it. I cannot say anything more than that. They have been really inclusive in terms of the way they have developed this.

Fay Jones: That is helpful. Mr McBride, did you have anything you wanted to add?

Philip McBride: Thales in Northern Ireland had no direct involvement in the 10x strategy. However, as a trade body, which Thales is involved in, we informed and recommended regarding skills requirements, future technology requirements, etc. into the Department for the Economy. I feel we had a fair crack at informing, and that is a positive place to be.

Q63 **Fay Jones:** Do you feel that the priorities outlined in the strategy are the right ones?

Philip McBride: At this time, they are going to drive our economy forward. They are right for today and for the next few years, but we have to keep a really close eye on how things change. Who would have thought, even five years ago, the speed at which cyber and digital technologies would influence every aspect of our lives? As long as the strategy is flexible to meet the needs at the time and foreseen needs, it is a really good plan.



Fay Jones: Dr Grundy, did you want to come back on that?

Dr Grundy: I want to pick up on Mr McBride's point there around the future. One of the sectors that we have not really discussed, which could be incredibly important to Northern Ireland, is the achievement of net zero and green technologies. This is something of a blank slate in terms of opportunity for the whole of the UK. We are dealing with a very rapidly evolving sector that was not really on anyone's radar, in an industrial sense, 10 years ago, but has absolutely appeared very aggressively in recent years, for good reason.

Northern Ireland has a very good chance, for instance in areas like hydrogen, which is hard to articulate at the moment, because it is a fast-evolving piece. We do not have traditional legacy in these areas, but the potential and the opportunity are manifold. Hydrogen, for instance, is of particular interest to me. Through the Matrix organisation, I am currently chairing a study on what the future of hydrogen in Northern Ireland might look like.

If we take that as one example, we have the opportunity in Northern Ireland. Because we were late to the party in terms of natural gas distribution, we have a late 20th century natural gas infrastructure, which can accommodate hydrogen. We have a nationalised transportation company. We have a nationalised water company. We have a nationalised electricity company. These ingredients make for an excellent test bed for hydrogen technologies. We have private companies such as Wrightbus investing in hydrogen transportation.

All these things can be leveraged to justifying focusing on an emerging sector, which speaks to this flexibility that Mr McBride talked about, as we look at the future. Although the sectors in the 10x strategy are absolutely appropriate, that is not to say that they are cast in stone and we should not be flexible as opportunities present themselves.

Fay Jones: That was a point brought up last week. I agree.

Q64 **Sir Robert Goodwill:** I am going to mention the B-word: Brexit. Depending on who you speak to, Northern Ireland has a wonderful opportunity, having a foot in both camps and having access to the European market, or Northern Ireland is going to be swamped with bureaucracy and red tape with the protocol. We have already heard from Mr McBride that paints and coatings have become a problem. Maybe I could ask Professor Flynn first. Which of those two situations is the reality? As time goes on, are we going to find that, as we diverge more, there are going to be more problems, or are we going to try to fix some of those problems and actually things will get better? I genuinely do not know which direction we are going to be in of those two.

Professor Flynn: Both of them are accurate reflections. There are challenges and opportunities in any of these things. If I talk very specifically in terms of the position of Queen's around Brexit, around 15%



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to 20% of our R&D income comes from the EU. It comes from our association with Horizon Europe.

One thing we have not really touched on is the importance of discovery science in translational R&D. You need to have really strong, good researchers to attract inward investment and to be able to, in the long term, make the changes and have that cutting-edge stuff that Philip was talking about. What are we going to need in 10 years' time? That is what the discovery science is doing in the university. The fact that we are losing between 15% and 20% of our research budget, potentially, based on our association with Horizon Europe, is a worry for us. What will the alternatives be?

The important thing within that space is not just the money though. It is the partnerships. Over decades, we have built up strong relationships with researchers in other universities across Europe, who are at the cutting edge of their particular field. Together, we have created fantastic research, which then goes on to do translation and to support businesses and industry. That is the challenge that we have.

What are the opportunities? There are opportunities, potentially, of sitting in a space where, as I said earlier on, we potentially could speak to two regulatory positions, or where we are at the nexus of two potential markets. That offers a really important opportunity for us. We are looking at how to potentially work within that, with things like our regulatory technology centre. There are challenges. There are opportunities. There are two extreme positions and actually the truth is that we are somewhere in middle. There are good things and bad things about this.

Q65 **Sir Robert Goodwill:** Would you prefer to characterise that answer as, "The jury is out at the moment"?

Professor Flynn: All of us would.

Q66 **Sir Robert Goodwill:** Dr Grundy, some sectors have been more severely affected, like agrifood. We have sorted out some of the medicines issues, but are there issues affecting your sector that are becoming a problem and might put off investment in Northern Ireland?

Dr Grundy: Without dodging the question—and it is a very important question—the jury is out. It is hard to know until the dust settles on the situation. There are two sides to every story. I think you will find someone who is not happy with the way the Brexit situation has panned out. I think you will find many that are very happy.

As a private sector professional, I would always seek to look at the positive aspects of the situation we find ourselves in and exploit them. There are many good examples in my sector of companies that are doing that. There is a company in Mr Paisley's constituency, who is run by a mutual friend of ours, Irwin Armstrong, CIGA Healthcare. For full disclosure, I used to be CEO of that company. It is profiting very nicely from the situation it finds itself in post Brexit. Irwin Armstrong himself,



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the owner of that company, was chief among the Brexiteers in Northern Ireland. In that instance, where it can source technology from abroad, bring it into the UK, regulate it within the UK and then export, to both the UK and the EU, it has found a very satisfactory situation, from a commercial perspective.

If we can focus on what works, highlight that and then try to resolve what does not work and help those companies, I think we can manage that. I would not want to throw the baby out with the bathwater. If Northern Ireland finds itself in a unique situation that can be exploited to drive the prosperity of Northern Ireland, we very much should do that.

Q67 **Sir Robert Goodwill:** Mr McBride, you have mentioned the issue with coatings. Is that just one of myriad problems, or can you work through some of these?

Philip McBride: Perhaps my sector has been fortunate. Defence is a fortunate sector in this regard. I have little supply out of Europe, because most of the countries have their own indigenous capability for the products, services and solutions I would manufacture. There is a tendency to buy local and I trust the UK MOD will continue to buy local as best it can. There is no source for rocket motors and warheads in the UK. We buy those from Switzerland and Norway, which have very slightly different trading rules than the rest of Europe. That helps us greatly.

We have a tremendous ability to plan ahead in my industry. There are not rapid turnarounds as there would be in agrifoods. When a contract is signed by MODs around the world, the delivery timescales tend to be two years or more away, because there is always development work to be conducted.

The different aspect for us would be space. We manufacture in-space propulsion systems for satellites. Work has been transferred out of Thales Alenia Space in Cannes into Belfast. We are the only UK manufacturer that make in-space propulsion. It is a fascinating part of our business. The day a contract is signed, I know the day the launch will take place for the rocket that takes the satellite to space. I have lots of time to plan, which other industries do not have, and that is an advantage to me.

From a UK military sense, or even an overseas military sense, if there is an emergency, all of a sudden an aircraft lands in Aldergrove and takes equipment away. I do not have the demand on me that other businesses have.

Do I face problems? Yes. When I move equipment back and forward from Northern Ireland to GB, which I do on a weekly basis, that can add four days on either side of the Irish sea at the moment, just in terms of regulation. Again, I can plan for that. Other industries and sectors possibly cannot.



The other comment I would make is on resource. Brexit could have been an issue for other sectors. It probably is an issue for other sectors. As Professor Flynn has said, on some of the research working, the research funding, we know ourselves that Invest Northern Ireland has told us that there is up to a 30% reduction in funding for research, because of European money drying up. That will certainly impact my business and where I invest my own money. From a resource point of view, a lot of our business is UK eyes only, or Five Eyes, so we have not had the issue of foreign nationals working in the weapons system business. We have foreign nationals on site, but they tend to work on the space side of the business.

Sir Robert Goodwill: It is not every day you get the answer to question, "It is rocket science."

Chair: Exactly, yes. That is a new one, so we will bank that.

Q68 **Mr Campbell:** On the same issue, I would like to hear from each of you if you thought the following scenario is either overly optimistic or more realistic. We have looked at figures on R&D spend across the UK. Whereas Northern Ireland 10 years ago was very much behind the curve, the past few years it looks like it is increasing exponentially, which appears to be a good thing, particularly in the private sector.

We have also been told a few months back that, through the British Government's issue in Hong Kong, there are hundreds of people who have moved from Hong Kong and settled in Northern Ireland, many of them in the private sector. If you look at our position post Brexit, we are inside the UK but have access to the EU. That is just a political and geographical reality. Whatever about the protocol, we are geographically next door to the EU and politically part of the UK. Do all those things bode exceptionally well, or are they just factors that may or may not benefit us going forward?

Dr Grundy: All of them can be exploited. You look to see how they correspond with the strategy and how you can bring those in line to drive the strategy. They could all be exploited.

If I take them in sequence, in regard to R&D spend, you are right, Mr Campbell, the spend has increased, but the ratio is still wrong. Although the private sector has significantly increased its investment in R&D, we still lag significantly behind the rest of the UK in terms of Government-funded R&D. A good example of that is Innovate UK's catapult network, which I think employs around 4,000 people, four of whom are in Northern Ireland, subsidised by Invest Northern Ireland. That is just one example where Government R&D could be increased significantly in Northern Ireland to drive that. A culture of R&D and recognising innovation as a driver of commercial success, privately, publicly and prosperity-wise, is a really good thing.



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In terms of the availability of people, you mentioned Hong Kong. We can absolutely take advantage of that situation, if the skillset is right. If we can find people with the skills that correspond to our needs, in line with the strategy, the emerging economy and the sectors we think are important, that is absolutely something that we can drive. Northern Ireland is a wonderful place to live, and we are very welcoming and warm people. People with the right skillsets can make a wonderful life for themselves in Northern Ireland. If the opportunity is there, why not take it?

We have touched upon Brexit before. There are elements of Brexit that need smoothed off, in terms of the rough edges. There are elements that are absolutely prime to exploit from a Northern Ireland perspective. If we can bring them in line as well, we are in a great place. The potential for Northern Ireland is huge, if we get behind the right areas.

Bob Stewart: You can train them up too. The Hong Kong Chinese are really good at being trained quickly.

Professor Flynn: I would absolutely echo what Rob has just said. You need to do a little bit more of a forensic look at the figures. I think that you will find out that we do not have enough companies that are investing in R&D. Actually, the R&D is going to a smaller group. At Queen's, we are seeing that part of our role is to work with some of those SMEs in terms of that R&D potential, which is where our knowledge transfer partnerships come into place, or our co-funded studentships.

It is about establishing new opportunities and new enterprises. This is what Rob was talking about, a culture of innovation, how to get people to think about what things they might want to do in the future, in terms of establishing companies and spin-outs. We can be thinking about how we can scale up current businesses. What is it that they can do to help them grow? We have the enterprise activities to be able to support those companies.

That is something we did at the beginning of the pandemic, when we knew that a lot of businesses within Northern Ireland were really going to struggle with this changing landscape. We established a new programme within Queen's, which was called Scaling the Edge. That was inviting companies to come in and do some of this customer discovery to think about how they potentially needed to pivot their base to be able to work within and to be successful within this new landscape.

We need to work with multinationals and that is where a lot of this R&D is coming in, so Seagate, Thales, and a lot of the fintech, cyber-security work that we are seeing within the fintech sector. That is where some of this R&D is happening. We also need to attract new multinationals and new opportunities into Northern Ireland, so businesses that are not currently based here. There is a lot of potential, but there still needs to be a lot of work. I love the phrase that Rob used, "a culture of innovation". It is about getting everybody to understand that there are



potential R&D opportunities in everything they do and how we maximise that.

In terms of reaching out to talent around the globe, absolutely there are fantastic opportunities within Northern Ireland, but we need to make the space in Northern Ireland the right, attractive space to be. That political instability is part of one of the things that is stopping that happening. With our alumni office, we are looking at our diaspora, engaging with our alumni body, looking at the opportunities that they might want to work with us on, even from afar, or to come back to Northern Ireland as well. We are working on that and we see a lot of opportunities.

In terms of the Brexit question, I have already outlined what I see as the problems and the opportunities. Absolutely, there are opportunities within that, but we need to have the funding and resource, the partnership and the ecosystem to be able to realise those possibilities.

Dr Grundy: I wanted to make the point that, when we talk about industrial R&D, a huge amount of innovation is lost in the administration and definition of that. I will explain what I mean by that. In Northern Ireland, we are lucky enough to have one of the major focuses of materials handling plant manufacture in the world. 40%, I think, of all business for materials handling of heavy aggregate goes through mid-Ulster, so Cookstown, Dungannon and that area.

I was visiting a company, CDE Global, recently. I come from the pharmaceutical sector and we always apportion a percentage of revenue to R&D; 15% is the golden percentage. I said, "What percentage of your revenue do you apportion to R&D?" and they said, "Zero". I said, "You are clearly very innovative. Why is it zero?" "It is because all our innovation is for the benefit of the customer. The customer wants us to do something, we innovate significantly around that challenge and all that innovation is then owned by the customer. We do not ascribe it to innovation and R&D in an administrative sense, but we are incredibly innovative".

The manufacturing sector is a good example of that, where perhaps we do not appreciate or record accurately the degree of innovation and R&D that goes on there. It is therefore hard to fund and get behind, because they do not signpost the fact that they are innovating. To Professor Flynn's point around the culture of innovation, if we advertise this culture of innovation and bring more traditional areas of innovation that do not recognise that they are on the cutting edge, or do not advertise it in the same way, we can have a greater impact and apportion funds more meaningfully.

Philip McBride: I would echo what Dr Grundy has said. Sometimes we do not speak highly enough of our capabilities in Northern Ireland. That goes right back to a comment made earlier in the discussion. I do not want to digress too much, but it might surprise people around the table to realise that 30% of all aircraft seats on the planet come from Northern



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Ireland, from Collins Aerospace in Killeel and Thompson Aero Seating. That is a number that still staggers me. They put such an amount of effort into designing just the right seat that suits just the right person.

Going back on the R&D spend, it is important to realise that we are investing more and more in our products and solutions across Northern Ireland. Within my own business, we have doubled our self-funded R&D over the last three years. MOD also is investing in really high technology.

I liked the comment earlier on: "It truly is rocket science". I am of an age where I remember sitting and watching "Star Trek" on TV with William Shatner as Captain Kirk. I remember watching those phasers. In the last 12 months, Thales in Belfast has been awarded two contracts from MOD. These are customer-funded R&D programmes to the tune of about £50 million. That is to investigate the use of laser-directed energy and radiofrequency-directed energy weapons for use with UK MOD and in the export community. There is significant investment in R&D coming into Northern Ireland from MOD.

I was going to say that this is "my cry", but that is probably too strong. If that technology is proven technology, is capable, then the inventors, the developers should get an equal shout at where the further design, manufacturing and integration work is done. For me, it is one thing doing the R&D work. It is another thing creating that long-term wealth for your nation in terms of the sales in the UK and the export. The private sector is investing more, the Government are investing more in R&D and that is a good thing.

We have covered the foreign employment. It is not such a big issue for me, but it is absolutely the right thing to do for Northern Ireland. We should be looking at opportunities based on merit for anyone in our country, and I certainly welcome that.

Last but by no means least, on the post-Brexit issue and working with EU, outside of UK it is obviously our largest and closest export neighbour. If we are not working with and into the EU, we are missing a serious trick that will do our economy no good whatsoever.

Q69 **Claire Hanna:** There seems to be an intensification of north-south trade flowing, maybe from Brexit and some of the logic of the geography. We were talking last week, for example, about potential advantages of hub-and-spoke model from Dublin. The Republic punches above its weight in terms of attracting FDI. What do you think the Government's investment strategy and the Executive can do to pump prime that and take better advantage of the opportunities of the all-Ireland economy?

Professor Flynn: I am very happy to answer this question. I have to think about it from the HE sector. We have historically had, and still have, really strong relationships with the universities in the Republic. It would be silly for us not to do that. We have some of the best universities in the world two hours away from our door. We jump on a train and can be



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down, speaking to other academics. They and the SFI centres have been a significant part of that economic development and attraction of FDI.

When a company comes along, it has to decide, "Where do I want to set a new base?" It is thinking, "Where do I get good skills? Where do I have cutting-edge science to let me have that cutting-edge opportunity against my competitors? Where is a lovely place for my employees to live so they will stay and new talent will come and be retained? Where is it easy to have this set up? Where is there a strong partnership in that place?" We can tick all those boxes. We can especially tick those boxes if we work in partnership with places that are just over the border from us.

I would like to see something that was originally stated in some of the previous strategies, which is cross-border research centres, potentially linking up into GB as well, where we are speaking to industry about their needs, but coming in from discovery science as well, about what we are going to need in 10 years' time. It would seem like an ecosystem that draws in that expertise in the Republic of Ireland into the UK, including into Northern Ireland, would be a really powerful catalyst to attract FDI for higher education but also for industrial need on both islands.

Dr Grundy: There are many opportunities to leverage economic prosperity across the entire island of Ireland. I was recently invited to Údarás na Gaeltachta to talk about the potential synergies in the medical device area between the west of Ireland, down in Galway particularly, and Northern Ireland. There are huge synergies.

We need to invest in mapping those synergies and bringing them together. Some sectors are easier than others. If you look at the tech sector, for instance, and the investment that a company like Microsoft makes in Belfast and Dublin, that is a large organisation that can organise itself across the island, look for those complementarities and exploit them.

For other sectors, it is sometimes a little more difficult, because you are talking about two different regimes, two different wheels spinning at different paces. We have a sovereign Government in the Republic of Ireland with their own tax-changing freedom and things like that. That gives a tremendous advantage when you are talking to potential FDI candidates. We do not have that facility in Northern Ireland. We regard ourselves as a small economy and we are, because we are devolved to certain extents, but not entirely, so that does not give you the same kind of leverage.

If we are going to exploit the synergies across the island, we have to sit back and think carefully about what they are. They will not happen by themselves. Energy needs to be put into looking at where the sweet spots are and exploiting them. My perspective is a commercial one, but I also have an interest in creating sectors that operate. Medical devices are a great example of an area of excellence in both Northern Ireland and certain parts of the Republic as well. That is eminently exploitable, but



energy has to be put into it. Investment has to be put into it to create those synergies.

Philip McBride: I am only going to mention one other thing that my colleagues have not mentioned so far, because I agree with everything that was said, and that is the space sector. Going back to what Professor Flynn has said, it is difficult to say it is a sector, because it includes digital, cyber and advanced manufacturing. Without question, in the UK there is a very quickly growing space sector because of the amount of money Government are putting into space, the establishment of a national space strategy and space ports across GB.

There is an influence from an all-Ireland perspective. Indeed, ADS is running all-Ireland space conferences and has been for a couple of years. We need to harness the technologies that are available across the island and the research, as Professor Flynn has mentioned already, to bring that to bear, so that, from an all-Ireland perspective, we can play a big part in the geo-return that comes with large investment, billions of pounds worth of investment in such a sector.

It is one of those sectors where, to be fair, politics does not play a big part. There is no north or south. It is what the sector brings, what capabilities there are together, so that we can make good, sensible business, strategy, investment, resource and growing our skills decisions. These decisions impact us for many years. When satellites go into space, they are there for, hopefully, a minimum of 20 years. From day one of launch, you are now working on the next satellite.

We are lucky: we have three satellite systems in space at the moment. We are working collectively with some of our ADS Northern Ireland partners, who happen to be based in southern Ireland, funnily enough. There are about 15 companies that have an absolutely genuine capability and desire to be involved in the industry. Outside of what we see in agrifood, pharma, digital, cyber and digital twins—the list goes on—the space sector has a real potential to bring many organisations together from the academic world, through research and through industry, to make a big impact on the island.

Q70 **Scott Benton:** Turning towards UK Government investment into Northern Ireland, how well do you think that funding streams, such as the levelling-up fund, shared prosperity fund and community renewal fund, will support Northern Ireland in achieving its economic objectives over the next five or 10 years?

Professor Flynn: The critical thing is around co-ordination of that funding. We do not want a disparate spreading of resources too thinly. We have heard this already from a couple of us. We are seeing huge investments through things like the city and growth deals. To be clear, in terms of the innovation space within the city deals and the growth deals, this is capital. We are building buildings. We are then going to see great



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things happen in those buildings, but they are buildings. We are having to work with industry and funding bodies on how we fill those buildings.

We have good businesses cases to be able to do that. We need to have those particular different funding streams. At the moment, we do not have clarity on all of those, in terms of how they will work, what they will look like and how they will distribute funds. We need them to coalesce around the areas of change that we think we can see. It is about making sure that the portfolio skills that we have are all adding value, as opposed to trying to solve all the problems for everyone everywhere, which is going to be a huge challenge to do. It is about focus and alignment. That is what we need to see. We need to see those revenue stream and funding streams coming in, backing up the city deal and growth deal investments that we have coming in.

Philip McBride: Levelling up is really important in our sector and our industry. As I said earlier, the number of pounds per capita spent in Northern Ireland from a defence perspective is significantly lower than it is across other parts of the UK, by a factor of 10, in actual fact. Funding should focus on levelling up, not as a handout. Northern Ireland does not want a handout. Northern Ireland wants to win business and attract research based on merit. That is what we want to do. We are proud, capable and want to be an equal part of the sharing of funding around the UK, where our expertise is able to be applied.

I make no apology for talking about defence, because that is the area I come from. There are opportunities in the very near future for UK to truly level up and place exceptionally large—and I do mean exceptionally large—contracts in Northern Ireland. That would do more for levelling up than probably any other single award.

Without going into any great detail, the other weapons systems provider in the UK is MBDA, headquartered out of Stevenage. It has had the really good position over the last 10 years to have had what is known as a portfolio contract—a really good wrapper around a series of capabilities that needed to be developed for UK MOD over 10 years. They tend to make the heavier-weight weapons and strategic weapons for UK.

In Northern Ireland, we focus on what are known as the lighter-weight weapons. We have been in discussion with MOD for a number of years and got to a position where there would be an assessment phase over the next 12 months to place, hopefully, or agree that a lightweight weapon portfolio would be placed with Thales in Northern Ireland.

Why did I go through that monologue? I go through that because that would probably triple the amount of money per capita in Northern Ireland that is spent on defence in one fell swoop. From that, there will be the growth in jobs not just in my business but in the supply chain in Northern Ireland. These are long-term pieces of business. We are talking development contracts of 10 years, delivery contracts and support contracts for 10 years beyond that. That gives an immense stability in



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any company to further invest its own money, because it knows it is going to be around for 20 years. It also allows us to invest as a defence prime. It allows us to invest in our supply chain.

Levelling up is critically important. It was highlighted in the Dunne report that regional defence prosperity was an absolute must, because it is a way of putting money into the economy. I absolutely support that, but maybe I would because that is my sector.

Chair: In the interests of time, as time marches on, could I ask for some shorter and pithier answers, please? My request for pithiness usually gets a cheer from Mr Campbell, if from nobody else.

- Q71 **Scott Benton:** Some of the funding streams, such as the shared prosperity fund, are administered directly by the UK Government, rather than locally. A few moments ago, Professor Flynn, you suggested that, if we are not careful, some of the schemes may lack co-ordination in terms of economic objectives and outputs. Potentially, the schemes and the finances could be spread too thinly. Do you think there is a risk in terms of how some of the schemes are administered and that that could be the case if there is no executive oversight from local politicians to make sure that those funding streams are allocated in accordance with strategic economic objectives?

Professor Flynn: A partnership approach is absolutely the right approach to take. Local knowledge will be very helpful. At the moment, we already have, in the co-ordination across some of the city and growth deals, is a partnership that is local councils, industry, universities and economic development agencies, so everybody sitting round the table, helping to think about what the best thing for Northern Ireland is. It is not necessarily a political dimension. It is a partnership dimension.

The UKRI has recognised this as well, which is why we have regional partners from the research and innovation councils, EPSRC and Innovate UK coming and being present within Northern Ireland to understand the ecosystem and how their funding structures relate to what we need in Northern Ireland. I do not think it is a political question for me. It is a partnership question, and it is about understanding the need and the opportunities that some of the other funding streams and the co-ordination across all these different funding streams need. There needs to be partnership, discussion and co-creation.

Scott Benton: That is helpful.

- Q72 **Ian Paisley:** Going back to Mr McBride, he is very enthusiastic about his sector, and quite rightly so. Does he share the belief that that enthusiasm needs to be energised and encouraged? With all of the opportunities, the Rosalind Franklin Mars rover, the Webb telescope that was launched last year, the opportunities for Northern Ireland industry like his to be innovative in not only the globe but the space sector is a huge opportunity for Northern Ireland. We just do not advertise the fact that



we are in that sector. We really should be, given that that is where this tech sector is leading. I remember when Tim Peake had his wonderful time in space and his connections with Northern Ireland only then became noticeable after his return. We built something on that. Is there more to be done in showing that companies like his and other Northern Ireland companies are in that sector and part of that cutting edge?

Philip McBride: Thanks very much for the opportunity to comment on that. Yes, the issue of the national space strategy has been really important. It has highlighted Northern Ireland as an area within the UK that was doing work and had more to do. Yesterday, we had the inaugural session of the Northern Ireland space council, in reaction to the national space strategy. That is a forum pulled together to bring likeminded industries and academia together. There are city deal folk on there as well to try to join the dots, which is my simple version of what Professor Flynn has said: join the dots of funding and capability within Northern Ireland.

This is undoubtedly a growth area. We need to do much more on it. I fear we have only started. At least there are lots of companies working in the upstream and downstream areas, which can bring real advantage to Northern Ireland in this sector.

Q73 **Fay Jones:** I wanted to ask about the city deals that are currently proposed. Mr McBride, could you develop your comment earlier on when you talked about the need for longer-term sustainability? I am assuming you possibly were not referring to the sustainability of the green kind, although that may be linked. I wonder if you can develop that thought for me.

Philip McBride: Yes, certainly. As an industrialist, my fear is always, "Let us throw money at it and that is bound to fix it." That is not the answer. The answer is to create sustainable growth, and that is not necessarily in the green sense, though energy has a huge part to play. I am really encouraged by the fact that money is being put into buildings. I think of AMIC as a great example through city deal, but it needs to be much more than the building. If we build a fantastic infrastructure and think we have done our jobs, we are misleading ourselves and the public. We need to ensure that those establishments are resourced with people, with facilities and with research, but connected to future business.

For me, if these establishments are not created at the outset with a view that it is going to create business, with all due respect, we are creating an adjunct to university. We should not do that. It will be an adjunct to university, but it needs to do more. It needs to create employment, capability and expertise beyond that which we have.

For me, it is let us look beyond the building, the timescale, the 10x plan and look to 20 years hence and beyond. How are we creating a healthy, wealthy, progressive Northern Ireland?



Dr Grundy: Emma is bound to have more to say about the city deals than I have. I observe a tension between the need for ring-fenced innovation funding and the need for it to be administered with local intelligence. There needs to be more flexibility around what we do with that ringfenced funding.

I have watched in anguish over the last three years as I have seen dear colleagues in both QUB and UU hammer a square peg through a round hole in terms of the city deals. It has been painful to watch, but we have got there. I have watched colleagues in the civil service paralysed with fear as a result of the RHI legacy. They do not want to make a decision to apportion funds on something that might fail.

Some of this will fail—that is just the reality—but that should not stop us backing good ideas that have longevity and sustainability. If we have ring-fenced innovation funding and the flexibility to apportion that funding in the appropriate way to the local environment, the chances of that sustainability and ultimate success are vastly increased.

Professor Flynn: I am going to try to be very brief. This has been a very long journey. It feels like we suddenly have these city deals, but it has actually been a really long reflection of what is going to work. There were lots of things on the table and we have narrowed those down through huge analysis.

I want to say to Philip that, absolutely, this is a business-university partnership to the core. This is not an extension of university. We need to have strong universities to deliver business needs, both short term and long term, but absolutely it is partnership, and inclusive economic development is key to this. It builds on success and knowledge that we have within Northern Ireland.

CSIT is a really good example. This is a long-term, decades and decades long, investment into cyber-security, which has seen FDI follow that. Taking that model through really strong science, translation and diffusion of innovation into other sectors is where we are now. Taking that knowledge of how CSIT has been successful into advanced manufacturing and the opportunities, clinical trials and creative industries is exactly where we are.

For me, the biggest risk within a city deal is not doing a city deal, because there needs to be that input and step change for Northern Ireland. This is what is going to give them that, in my opinion.

Q74 **Sir Robert Goodwill:** I would like to ask some questions about science and technology in Northern Ireland and the opportunities that may be there. Professor Flynn, if you look at the ONS stats, the proportion of R&D that happens in universities in Northern Ireland is much lower than in places like Scotland and Wales. Is that down to a UK Government policy where they tend to back winners? If you are Manchester, developing graphene, or you are doing gene editing or whatever, they



tend to throw money at places where things are happening and where they are successful, unlike Germany, where they tend to spread it quite far and wide across lots of universities. Arguably, that is not as effective in bringing forward those technologies. What does the higher education sector in Northern Ireland need to do to get a bigger share of that pot?

Professor Flynn: This is a really interesting question. We are in a slightly different ecosystem, where we have a different funding model for higher education, where we have a cap in terms of the number of students that can come in and the block of funding that we have. I suspect that that is one of the parts of the support and infrastructure that allows us to do the cutting-edge science that we would like to do.

We need to look at how much funding we have coming in per member of staff from our block funding and see how that relates to the funding that we would see coming in to our GB comparators. We have cutting-edge science within Queen's and within Ulster as well. Luckily, we have this fantastic thing, which is the hugely administratively burdensome research excellence framework, which tells us how good our science is and the impact that it is making compared to the rest of the UK. We know that we have really strong science within Queen's.

I do not think it is a question of quality, but it is a question of funding and long-term sustainable funding. One of the problems we had when Stormont was not sitting was this short-term approach in terms of decisions and long-term strategic investment not being able to be made. With the city deals, we have the opportunity for long-term strategic investment in both discovery and translational science. That gives universities the security to be able to make those cutting-edge science discoveries that they cannot make if they are working short term to short term.

Q75 **Sir Robert Goodwill:** Discovery science is the biggest challenge, because there is not an obvious product that may come out of it, although, as we have seen from other innovations, products flow from some of that innovation. You could not expect a company to fund research at the university unless it knew that there was going to be something coming out the other end that might help it in a particular market.

Professor Flynn: Yes, absolutely, but if you look at things like our spin-out portfolio you can see that we are doing things that are useful to society. We are creating companies that have some kind of market presence, that are existing, establishing themselves and being successful within that. Discovery science is absolutely critical, but there is also an element of the translations piece. That is where the strength of Queen's is. When you look at things like the Octopus Ventures ranking, we are coming top in terms of the efficiency of the investment we have for our science, in terms of the commercialisation and output that is coming from that. We are doing really well in the translation space, but that comes from strong discovery science.



Q76 **Sir Robert Goodwill:** Dr Grundy, there are very many ways that Government money can contribute to R&D, through direct funding of universities, tax breaks, city deals, as you said earlier, backing good ideas, although I might suggest that the Government have not necessarily always got a good track record in backing good ideas. What do you think is the best way we can get scarce public sector resource to get the most bangs for our buck, or is it all of the above?

Dr Grundy: It has to be a mixture. I do not think there is a silver bullet. UKRI, which is the body that apportions research funding throughout the UK, does so over a spectrum of different disciplines and through a spectrum of different organisations. Northern Ireland has benefited recently through the introduction of local representation from the EPSRC and Innovate UK particularly. Those two funding bodies are very important to the heritage of Northern Ireland, Innovate UK because of our large number of SMEs; being able to understand and translate the opportunities that Innovate UK has to fund SMEs is really important, because it is somewhat opaque. The EPSRC is important because the engineering capability in the universities is very strong. For the EPSRC to recognise that first hand is really important and will result in more appropriate apportioning of funds.

Because I work in the private sector, my closest association is with Innovate UK, and I see a tremendous amount of creativity and experimentation in the way that they look to allow funds to be accessed by companies in the UK, in collaboration with the universities. I also assess Innovate UK grants. I spent most of Christmas assessing about 20 of them, which is fascinating. I see example after example of very efficient collaboration and partnership between small companies and universities.

This is excellent because it allows small companies to access that research in a way that they could not do before. It is about doing that, but also with the spirit of private-public collaboration; having matched funds come to the table from private risk investment is really important as well. We do not have anywhere near enough private risk investment—VC investment—in Northern Ireland. It is a difficult geographical area to get your head around if you are from Boston, where most of the money is, certainly in my sector, in the life sciences, but the quality of the research is there.

We could also learn to articulate ourselves more aggressively. I am quite often in the situation where colleagues in the US articulate a poor idea better than a good idea is articulated from Northern Ireland. That understanding of what the private sector needs in terms of investment and then getting in behind it and encouraging co-investment is really important.

Q77 **Sir Robert Goodwill:** Mr McBride, with your ADS hat on, as much as your Thales hat, how can Northern Ireland best contribute to the UK's global ambition to be a science superpower?



Philip McBride: That is a large question.

Sir Robert Goodwill: It is like an essay question, isn't it?

Philip McBride: During the conversation today, we have covered many of the aspects. We have to harness the investments that have been made through city deal, through companies' self-funded R&D and through Government R&D investments. To go back to Dr Grundy's comment—he said it a couple of times—there is a need to push our capabilities on a national and international front, because we are not that sort of people. We need to do a bit more shouting from the rooftops. That might seem like a weak thing to say, but it is a fact.

When I travel and I am trying to get business with the company, I often see that it is not necessarily those who shout loudest who win the award; it is those who shout consistently loudest. We have a tendency to say things once and assume everyone understands us and that is the answer. There is a consistency of approach, which can come from a local government level, supporting our interests, and national Government level as well.

We need to put much more emphasis on our STEM activities at a primary school level. We have some 50 STEM ambassadors within Thales in Belfast, who work closely with local schools and some all-girls schools to try to encourage young ladies to get into the STEM area. We are finding—and there is a lot of research on it anyway—that, if you have not captured the hearts and minds of young ladies at primary school, there is much less likelihood that they are going to progress through engineering, technology, maths and science. One of our biggest problems in our company is that less than 20% of our workforce are female, because we are not capturing them at an early age. If we want to be a science and technology superpower, we had better start investing in science and technology at a very young age.

Q78 **Chair:** What could you do to help fill the deficit with a focus on corporate-led lifelong learning, to find people who had an interest but no historical hinterland, bring them on, apprentice them, train them, help them, fund them, etc?

Philip McBride: There are a variety of options there. Apprenticeships and the higher apprenticeships are very important. I have to be honest: we cut back quite a bit on apprenticeships in Belfast over the last couple of years.

Q79 **Chair:** Why?

Philip McBride: The apprentice levy did not help, because there was no mechanism in Northern Ireland for getting your money back. You paid your apprentice levy, and you could not get it back out. That may have changed now, and I apologise—I do not have the answer to that one. That was a negative feature of apprenticeships.



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We should be investing in apprentices. We have taken on some this year, but it is not a huge amount. We have taken on 10 apprentices, which is not big for a company with 800 people. We definitely need to do that to encourage people. We work with other organisations, like the Prince's Trust in Northern Ireland. The year before last, we had 10 Prince's Trust people. We all know that Prince's Trust folk come from difficult backgrounds. We wanted to give them a chance, give them an opportunity.

Q80 Chair: What was the age profile of these people?

Philip McBride: These were 18-to-23-year-olds. We brought them in, gave them a six-week, "This is what Thales in Northern Ireland is about. This is what engineering in Northern Ireland is about. This is what manufacturing is about". At the end of that, we had five jobs and took five people on. I would love to do it again.

There are things that larger industries like mine can afford to do. You could say that it is altruistic to do that, but actually it benefits my business, because I get people who have an absolute desire and appetite to work, do the right thing and really do well, because of their background. They see it as a way of changing their demographic profile. That is a great thing, and I am delighted that it is happening. Unless we, as business, invest in the secondary school area of our community, we are always going to be in the situation where there are those who are left behind.

Dr Grundy: Part of this is that there are emerging industries that the economically inactive in Northern Ireland will not recognise. There is a lot of work to do to promote the opportunities within those emerging industries. There is the work of Almac, for instance, in investing in a large exhibition space within the W5 complex. This is a public science education facility in Belfast. Almac has created a space devoted to understanding the human body and health. That does a great job of raising the profile of a local company that have many employment opportunities. People who are not aware of them can appreciate that and get involved in the opportunities therein. It is incumbent upon employers in Northern Ireland to articulate the opportunities in a way that is appropriate to the people who they want to bring on.

Philip McBride: I have one last comment. The interaction between industry and careers services within schools is really poor. There is a real opportunity to have much better engagement to give young students a better idea of what is available in the Northern Ireland marketplace.

Q81 Ian Paisley: Mr McBride, where your company is based, in Belfast, there are, at a quick headcount, probably five grammar and secondary schools around it and probably something like 10-plus primary schools. How many of those schoolkids know that, right in the heart of where they are being educated, there is an international company that works in the space sector, the defence sector, a sector that is innovative, creative,



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sexy, cool and all of those things? How many of them know about it and want to get engaged in it? What can you do to get into those schools? What can those schools do to be more welcoming and in partnership with you?

Philip McBride: Three years ago, 40% of local schoolkids would have known of us, but a lower percentage would know we were in space. They would just regard us as “that air defence company”. The pandemic has not helped whatsoever, but we hold open days for schools. We have our STEM ambassadors go into schools. That has been done remotely, but only latterly in 2021. I fully encourage our team here to bring students and careers advisers in schools in, to see what goes on, but I am one part of the sector.

You are absolutely right. There are people who will want to work on a satellite system, who will not want to work on a weapons system. I understand that, but we have much more to offer in Thales in Northern Ireland than just being a weapons systems provider. I feel that I have a large responsibility as an employer to get our name out there and show what we are doing, that we are world class and that there are great opportunities not just in Northern Ireland but across Thales UK and worldwide, because, let us be honest, a lot of people come back. I do not mind people leaving. They will come back, because our roles are very exciting. I have a big responsibility, as does every other managing director of an engineering and industrial facility in the country, to show that engineering and technology is an exciting, rewarding and very fulfilling career.

Q82 **Chair:** Before we move on to skills and education, we have been talking about apprenticeships and the like, encouraging, joined up, bangs for bucks and all the rest of it. Could the three of you give us a word or two of your assessment of, interaction with or experience of both Invest NI and the DIT?

Dr Grundy: It is a good question. There is some work to do, in terms of translating the need to the skills provision. There are areas that can be highlighted where it has worked well. Invest Northern Ireland runs an assured skills programme that is a good example of when it works well, where a company can work very closely with Invest Northern Ireland to articulate what its particular skillset is.

Q83 **Chair:** I was thinking particularly of the point that Mr McBride had made about the tendency of somebody to give a speech or issue a press release, a tweet or something or other, and go, “Right, job done”. It is in terms of this perpetual drum-banging to say, “We are here. Come, look, ask, think, invest and employ”.

Dr Grundy: Is that in terms of skills and education or in terms of investment?

Chair: No, your assessment in terms of investment in the broader sense.



Dr Grundy: Sorry for misinterpreting the question.

Chair: No, my apologies for not phrasing it clearly enough.

Dr Grundy: Invest NI does a good job of going out into the world and articulating the strengths we have. I would like to increase significantly that activity. There is an opportunity to do that with DIT. Sometimes DIT and Invest NI are unsure as to their complementarities and roles. There is perhaps some co-ordination that could be done to maximise that.

Q84 **Chair:** Have you picked up a reticence, that, because economic development is devolved, DIT is inclined to be maybe a bit too respectful of that?

Dr Grundy: Yes, but I do not think that it is a conscious thing. It is a default position because of the devolution. If you look at the amount of investment that DIT and Invest NI have to carry out their functions, and then if you think about the potential benefit to the UK as a whole of investment in Northern Ireland, that would merit a little bit more co-ordination.

Q85 **Chair:** You would say co-ordination or complementary work. This is wider, because it is all devolved. The devolved doing its stuff but then a UK overlay would not be unhelpful.

Dr Grundy: It would not at all.

Q86 **Chair:** It is to try to ensure that there was a synergy between the two and to make sure that the work was complementary.

Dr Grundy: Yes, but it needs to happen deliberately and not by accident. There needs to be a constant interface between, "We cover this area. We cover this area together. We cover this area separately". I do not know if that occurs. I suspect that it does, but sporadically and opportunistically.

Q87 **Chair:** There may be scope for that. I know we heard last week about an anxiety that the United Kingdom-administered funds may be doing work that Stormont does not want to have done, because it is not a sector that Stormont is particularly keen to do stuff with. It is a key point about this complementary nature.

Professor Flynn: I will be very quick. I would love to see more promotion by DIT for Northern Ireland. My experience is that you get much more traction from somebody advocating for you who sits outside of where you are, compared to being inwards. INI does a great job. It understands the ecosystem exceptionally well and it goes out and sells us very well. There is something really important for the UK to say, "Of all the things that we do, Northern Ireland is absolutely brilliant at this and this is where we would put them at the front of the queue." I would like to see more from DIT.

Chair: Mr McBride, do you have a view on that?



Philip McBride: Yes, just briefly. Clearly, my industry is heavily regulated, so I cannot sell anywhere unless the UK Government allow me to. As a result of that, they are very supportive when we—

Q88 **Chair:** Broaden your observations out beyond your personal corporate interest. Think about it in the generic geography.

Philip McBride: INI is very supportive, as you would imagine, of all industry in Northern Ireland. What it is like in pharma and agrifood I could not comment on; I simply do not know. From an industrial point of view, with 100 companies in aerospace, defence and security, I am familiar with what it is doing. The sectoral heads within INI who support that have immensely regular meetings with their counterparts and with the companies. From that angle, I hear positive commentary from industry. Yes, it is a tussle and there is red tape to go through to get funding, but it is public money, so there needs to be red tape. I get that.

From a DIT point of view, we had an inward visit from the Secretary of State for International Trade in November last year. She brought with her the new team to be established in Belfast. That is very welcome, because we will have a DIT team based here in Northern Ireland who we can interface with and who can assist us, taking issues on a broad scope back into UK Government, rather than having to always go to mainland to have our issues heard. We have a team.

Q89 **Chair:** Picking up on Dr Grundy's point in terms of the interlacing of Stormont's economic development work, Invest NI and DIT, do you get a sense of collaboration or silos?

Philip McBride: From local government and INI, I see where the connections and interfaces are. DIT in Northern Ireland is too new to understand whether that is a silo organisation or not. In my opinion, it really should not be. It is back to joining the dots. It is important that we do that.

Chair: That is helpful. In these inquiries we look for recommendations to make to Her Majesty's Government. That seems to have come through clearly as something to keep a watching brief on, so I am grateful to you for that.

Q90 **Stephen Farry:** Good morning to our witnesses. I want to ask a couple of questions around the skills issue. You will be conscious that there was a briefing last week in the Assembly around the rather perilous state of the finances in the Department for the Economy, as a combination of redirection of resources potentially towards the Department of Health and the loss of European funding and uncertainty around replacing funding. You will be particularly conscious of things like the European social fund, which has been one of the main sources of apprenticeship support in Northern Ireland historically. How much of a threat do you see potential budget cuts being to the roll-out of support, particularly in terms of skills and research and development?



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The second question is on skills, maybe to wrap together quite a few themes. Most of you have touched upon a range of skills points in a lot of your previous answers. To try to tie that together in some shape or form, could you tell us what would be your biggest three challenges that you assess in the skills arena? Secondly, what would be the three biggest asks you would make of Government, in terms of future skills investments to address those?

Professor Flynn: You might need to remind me of the second part of this question. I hope I answer it; if I do not answer it, please just remind me of what it is.

In terms of the draft budget, absolutely, we have significant concerns about how it is going to allow us to deliver what we need to deliver. There is a huge cut in our capital budget. We are seeing support for the city deal buildings, but beyond that there is no other support for capital within the HE budget at the moment.

Then there is a cut across the board, and how that manifests itself is very worrying. We need the whole pipeline. We need strong schools, strong undergraduate cohorts and strong master's cohorts. We also need strong postgraduate cohorts. There is the idea that we would have our postgraduate cohort cut at a time when we need a strong R&D presence within universities. More importantly, most of our PhD students go off to work somewhere else, typically within industry. They are the ones who are leading the R&D that is sitting within Thales and other sectors within Northern Ireland and outside of Northern Ireland.

This is not just a problem for the university. This is a problem for the industry and the skills base that will see that pipeline coming through. We have significant concerns about our approach. In terms of the skills agenda, within our new strategy we are approaching it very much, again, in a partnership model. We want to have stronger links with FE. We want to be able to have a more fluid, flexible approach to education, so we do not lose anybody who comes into the pipeline. If you go to a university and it is not the right space for you, what is the option for you to be able to move to something else that can support you without there being a problem of transition? If you are going into FE and actually HE is better for you, how can we think about how we transition into that?

Also, widening participation is going to be absolutely critical for us with the new strategy. How do we increase the pool of individuals we have coming into the university? Also, in industry we should be thinking about attracting back people who have potentially left industry. How do we get women back in to work when they may, potentially, have left for childcare and family reasons?

In terms of the big challenges I am seeing, they are absolutely the budget, the retention, as we touched on earlier on, of students and long-term stability. A PhD is three and a half years or more. We need to have certainty of the base in which that work is taking place. Also, with the city



deals we are having really strong relationships with industry to understand what those undergraduate programmes and apprenticeships working with FE should look like. We have a skills pillar within the Belfast region city deal, which is answering exactly this question: what is the workforce of the future? What do they need to look like and how do we need to adapt our provision and offer to be able to do that?

I think you asked what my three asks are.

Stephen Farry: Yes.

Professor Flynn: They are strong universities, strong FEs, better partnership and collaboration, so support for all the endeavour that we are trying to achieve. We understand our role within the economic development, but we need the support and long-term stability within that support to be able to deliver it. We cannot keep flexing and moving to something new every year. Although we need to be responsive, we also need to have some stability within that response. I hope that has answered your question.

Stephen Farry: That was very comprehensive. Thank you very much.

Dr Grundy: You packed an awful lot into that question. I am not sure I will do all of it justice. Professor Flynn certainly did, and her answer was very comprehensive. I am not sure I have an awful lot to add to it. The tension we have in Northern Ireland as a devolved Government is that there is a huge gravitational pull for things like health and education that takes money away from areas that are more long-sighted. I have no idea how to address that challenge. We need to be conscious that, if you take away from one area, there will be a consequence of that.

You mentioned three aspects of what good would look like, in terms of skills provision. If we can provide a forum where there is a constant conversation with employers to articulate what they need and then FE in particular, because it is most flexible, but HE and schools also, can be flexible, agile and adaptable in response to those needs and have a good flow of intelligence there, we can be in a great place. That is a real challenge.

As chair of Matrix, I am forever asked, "What does industry think?" That is an impossible question to answer, because, for every company there is in Northern Ireland, you have a different opinion. As long as we can set up some kind of forum that facilitates that conversation, that says, "Here is a need. Here is a need. Here is a need", we can at least try to address it in a flexible way, through the institution that is best set up to deliver it. It is that agility that is really important.

Philip McBride: I agree with everything that has been said already. For me, it is better partnership between industry in its broadest sense, the educational establishments, right from pre-further and higher education, but definitely including further and higher education. If we can get that



mix right, we have a much better chance of achieving the aspirations and objectives that we have set out in our economic strategy.

Q91 **Ian Paisley:** Professor Flynn, I have an early bid in with the Chair that I would like one of our recommendations to be that we lift the cap at Queen's University and at the University of Ulster and have more students locally being trained and educated in Northern Ireland. I want to give you the opportunity to say that and ask for that on the record. It would be really beneficial to get a witness telling us that this is key. Ian, the vice-chancellor of Queen's University, has briefed us regularly on this. I feel that this is a great opportunity for you to make the case for Queen's and the University of Ulster on that point.

Professor Flynn: Absolutely, we would love to see that happen, but we would also like to see the funding flow behind it as well. It is not just a question of having more students coming in. We need to be able to service appropriately those students. We need to be able to see an appropriate funding model that comes in behind that lift as well. We would absolutely welcome that, and I know that that is true of Ulster as well as Queen's.

Ian Paisley: Thank you and sorry for prompting you.

Chair: That is a useful note to take. Colleagues have not indicated any further questions. I am going to give two Chair awards today, first to Mr McBride for corporate branding, both his wall montage and his lanyard. The key prize for intellectual confidence has to go to Professor Flynn, for being the only academic I have ever met who has given a whole raft of presentation with no academic tomes behind her at all. It points to either an encyclopaedic and photographic memory or a recent office move, but I congratulate you whichever one it is. Can I thank the three of you very much indeed for joining us and for your contribution to this inquiry? You have certainly been enormously helpful. Thank you so much indeed.