Committee for Enterprise, Trade and Investment

OFFICIAL REPORT (Hansard)

Inquiry into Developing Northern Ireland through Innovation, Research and Development: Aerospace Defence Security

1 March 2012

NORTHERN IRELAND ASSEMBLY

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Members present for all or part of the proceedings:
Mr Paul Frew (Acting Chairperson)
Mr Steven Agnew
Mr Gordon Dunne
Mr Phil Flanagan
Mr Paul Givan
Mr Stephen Moutray
Mrs Sandra Overend

Witnesses:

Mr Ronnie Harrison	Aerospace Defence Security
Dr Leslie Orr	Aerospace Defence Security
Mr David Raymond	Aerospace Defence Security

The Acting Chairperson: I advise members that briefing the Committee today are David Raymond, who is deputy chairman of Aerospace Defence Security (ADS) Northern Ireland, Ronnie Harrison who is Thales's technical director, and Dr Leslie Orr, who is manager of ADS Northern Ireland. I apologise on behalf of the Chairperson, Alban Maginness, who has probably just passed you in the corridor, but he has had to go to another engagement. Members have put me in his place for the rest of the meeting. You are very welcome to the Committee, gentlemen. Without further ado, if you have a presentation to give, please be our guests.

Dr Leslie Orr (Aerospace Defence Security): On behalf of ADS, I thank you for the opportunity to share our thoughts with the Committee. I will say a few words and then I will pass over to my colleagues Ronnie Harrison, who is from Thales, and David Raymond, and both of them are members of ADS.

I will talk through my paper and pick out some items. ADS is the trade body for aerospace defence and security. We represent 900 companies across the UK. We established here in Northern Ireland in 2010, and we have 45 member companies here. Those companies represent 7,500 employees, so it is a key sector in Northern Ireland.

The aerospace, defence and security sector in the UK contributes £23 billion to the economy in the UK. The sector invests £1·7 billion in research and development (R&D). Therefore, it is a big part of the economy. The UK has 17% of the world's market share in this sector alone. The defence sector employs 314,000 people, and R&D in the sector accounts for about 8% of sales.

The space sector is growing by 10% a year. In the UK, it contributes £7·5 billion to the economy. The security sector contributes about £2 billion to the economy. Therefore, all those sectors together across the UK are a very big part of the economy.

In Northern Ireland, we did a survey last year, and I will pass round a copy of it. The four parts of the sector contribute about £1 billion to the Northern Ireland economy, so it is a key sector. As I said, it employs 7,500 people. In Northern Ireland, R&D in the sector is about £34 million, which represents 3·5% of turnover. Therefore, the figures back up the findings of the Committee that R&D in Northern Ireland is 3·5% of sales, whereas, in the UK, it is 7% of sales. Our goal is to increase the business for ADS Northern Ireland members and to increase investment in R&D.

Many of the projects in this sector tend to have a long lead time. It can take up to 15 years before investment in an aircraft is recouped. So government investment is required to make such programmes work.

That is a little background. I will pick up on some of the questions that were raised in the consultation paper. What opportunities were we aware of? We went out to our members in Northern Ireland and asked what investment opportunities they wanted and were aware of. Replies to question 1 included the response that they are getting and are aware of Invest Northern Ireland grants, as they are of grants from InterTradeIreland, the UK Technology Strategy Board (TSB) and European Union framework project 7 (FP7). All of the member companies were aware of those sources of help.

The second question that we asked our members was how appropriate those opportunities were. A number of companies said that a lot of resource tends to be required to respond specifically to EU funding. Only very large companies tend to benefit from EU framework 7 funding. The challenge is that Northern Ireland is, in essence, a country of small companies. We have a few large ones, but 90% of our companies are small, so they do not find that they can benefit from EU funding. That is one of the key responses from our members. Members came back to say that, going forward, we need to focus on funding for small to medium-sized enterprises (SMEs). My colleague David Raymond will highlight an opportunity we have found to do that.

Aerospace has been identified nationally as a key growth area for the UK. Business Minister, Mark Prisk, is leading the Aerospace Growth Partnership in the UK that ADS manages and in which all the aerospace companies are involved. Nationally, the Government are asking what areas and themes of aerospace research and development we should invest in, going forward. So, the Aerospace Growth Partnership is key, and many Northern Ireland companies, such as Bombardier, are already involved in that. As a local Assembly, you should be very much into that growth partnership. I wanted to highlight that aerospace is a growth area and an opportunity for us.

Of the UK's £23 billion revenue from aerospace industries, Northern Ireland gets £1 billion. Applying the Barnett formula, that £1 billion is twice what we should get, so we are bigger than we should be. We are twice the scale that we should be, but that is great, and there is opportunity for further growth.

I want to highlight some answers to question 5, which asks what the main barriers are to R&D. We found that lack of confidence in local companies in investing in R&D is one of the main barriers, specifically for small companies that are unaware of the global market opportunities. It is difficult for an SME to be aware of such opportunities and to invest in that R&D. We are trying hard to get companies to come with us on trade missions to find out about the worldwide market opportunities.

Other barriers that we highlighted in section 5.2 of our submission show that we found that many of the calls for R&D are not market driven. A lot of them are very much blue-sky R&D, and small companies feel that they need market-driven business opportunities that will return investments fairly quickly. So, market-driven R&D is very important.

The other factor in EU projects is that the time involved is excessive. It just does not work for a small company to have to wait a year before knowing whether it was successful in an R&D funding programme.

In section 6 we talk about what government can do. Our members said that it should simplify the R&D application process. It would be great if you could streamline that. They also said that R&D funding projects should be market-driven and that there should be investment in growth areas for Northern Ireland. The aerospace, defence and security sector is very much a growth sector for Northern Ireland.

I want to highlight the additional policies. A number of the companies that responded said to make sure that the Executive maintain R&D tax credits. Those are key for large and small companies investing in R&D. Tax credits have really been a tremendous boost for such companies, so they want to make sure that they are maintained.

How can business and academia work together? We feel that the new Northern Ireland Advanced Composites and Engineering Centre on the Airport Road, where business and university academia are coming together, is a key opportunity for companies to research and work together. I would like to take this opportunity to extend an invitation to the Committee to come down and see the centre as part of another meeting.

Before I hand over to my colleagues, I want to highlight an interesting opportunity that probably is not mentioned in the paper. It is about how the Northern Ireland Government can help with R&D, which is key. I think that there needs to be wise procurement. The Northern Ireland Executive buy a lot of things. Very wise procurement can help R&D in Northern Ireland. For example, last year, the PSNI needed to renew several hundred armoured cars for several million pounds. The contract went through, and a company outside Northern Ireland won that business. We then got the same type of armoured car that we have had for the past 20 years, which is heavy and not novel or fuel efficient. Through wise procurement by our Executive, however, there is an opportunity to place a research project with existing companies in Northern Ireland to design a new armoured car for the PSNI and to build it using the composite materials that our new composite centre can handle. Such a design could also create an export product for Northern Ireland. That is wise procurement, and we want to encourage it very much. Before the Executive buy something, they should think to themselves, "Can we get this designed locally through a commissioned project?" That is still in the works. We want to encourage that opportunity. Forgive me if we raised something that was not in the paper. I will now hand over to Ronnie Harrison from Thales, which is a large company, and then to David from a smaller company.

Mr Ronnie Harrison (Aerospace Defence Security): Good morning, Chairman and Committee members. We are very grateful for the opportunity to give you some thoughts from our perspective. Thales is a large company, with about 70,000 people around the world. We have a variety of divisions. Thales Belfast is part of the land defence division, which looks after advanced weapons systems, protected vehicles and optronics. So you get all those sorts of technologies in Belfast as part of our activity.

I really want to talk about R&D from the perspective of how the UK is handling it, the effect that that has on us and how we address it in regard to export and the export market, because those are two slightly different issues. I do not need to say to you that budgets are very tight and that the defence budget, in particular, has been attacked quite severely over the past couple of years, which has affected us as a company. Traditionally, we expected to get funding from the early stages of technology development right through to qualification, but that does not happen anymore. Over the past few years, it has been our experience that we have had to invest from the very beginning of a project to get it to demonstrator stage before, for instance, the UK Government is interested in offering a contract. That is quite a different model for investment from the one used in the past, where, as I say, we would have been given a clear requirement and a clear path to develop the technology and to bring it into service. That would then have been used as an export product to sell to other countries.

That model is changing because of budgets and because of the competition in the rest of the world. For example, over the past few years, we have invested many millions as a company in developing a new missile product and a new launcher platform product. That has got to the point at which, once it had a demonstrator capability, the UK Government were interested in offering a contract for taking it further forward. That is a challenge for us. The UK recognises that and has put in place the Weapons Technology Centre, which brings together all of the main players and prime contractors in order to get the best out of the money that the UK is spending.

The danger is that the UK provides the money to all of the various players and they all develop the same technology and get paid six times for it. That would never have happened in the past, of course, but the Weapons Technology Centre is trying to be sure that we have got the best value for money. By joining with industry in doing that, the idea is to give us confidence to invest against that funding. The Government are saying that the UK is really interested in that particular area of technology and will be prepared to fund that activity, but they want you to invest against it. We have targets in the UK to invest against funding that is provided for research and technology (R&T) activity. Thales is committed, and has been committed over the last few years, to spending in line with those targets. We have been investing and committing. It is still early days for that model of procurement, through which we are expected to put a lot of money in up front, as opposed to the traditional method.

The UK has been a challenge. There are things afoot to try to help us there, but there is still work to do. The export activity is different. In the past, the model was to develop a UK product and sell that overseas, but that is not happening anymore. It would have been the case that the UK product would have been at the top end of the performance range and very sophisticated, but not every country wants that sort of product. Therefore, it is difficult to sell it. What we have to do is invest separately in some cases to develop an export product. It might be based on the local product but developed separately. The big issue there is confidence. The issue in research and technology for big companies is never money; it is confidence, because, if it is 100% certain that they will get a return, they are going to invest. It is the same in the UK as it is in the export market. The challenge for us in the export market is to be confident that there is an actual opportunity there. That is one of the areas in which we are very grateful to the Northern Ireland Assembly for help. Even over the past few weeks, we have had a lot of help from Assembly Members in dealing with export opportunities to try to increase the confidence. When we have that level of increased confidence, we feel that we can invest and work against that.

We are also very grateful to Invest Northern Ireland, which plays a big part in helping us with that as well. There are many areas in which the risk would be too great for us to take on our own, and, although we take a high percentage of the risk and spend some money, in many cases Invest Northern Ireland has helped us to put that extra bit to the investment, which gives us a real opportunity as opposed to having the job half done. Invest Northern Ireland has been very useful in that model of working with a hi-tech company, particularly in our business, where the investment occurs over many years. It is not as though we invest for six months and the product is sold after six months. It often takes 10 years, or maybe five years, if you are lucky, for a system to come together. There is a long period of investment to get to the point of actually providing an export solution in those areas. We are very grateful to the Assembly Members here and to Invest Northern Ireland for their help.

We also work quite closely with the Electronics, Communications and Information Technology (ECIT) centre and the Centre for Secure Information Technologies (CSIT) at Queen's University in the Titanic Quarter, and we have managed to bring some business to them from other parts of Thales. For instance, we have a Thales research and technology centre in the UK and one in France, in Palaiseau. That centre in the UK is working closely with CSIT on research and technology to do with secure information technologies and communications technologies, so there is quite a bit of investment from that point of view.

In the export market we need confidence in the market. We need to be backed up in dealing with the export customers, and we are grateful for the help we have been given on that, but the more we get that, the more we invest and feel confident to invest.

One of the issues is EU funding. We have tried to get framework funding to Northern Ireland. That has been difficult for us, partly because of our defence business and partly because of the cumbersome process involved in getting that funding. In the past, you were required to get several partner companies across the EU, plus several universities. You can appreciate that in our business, with the sort of issues we are dealing with, it can be quite tricky to get the right sort of companies and universities to be able to do that.

We have helped with activities related to the Seagate-sponsored centre on nanostructures here in Belfast. Thales has put a proposal together with it to get funding, which has been achieved. However, in general, our own business does not benefit much from EU funding, and we have talked with Invest Northern Ireland a little bit about that.

In summary, we have been investing. We are being asked by the UK to invest more and to do so against targets that we are lining up with. In the export markets, we are challenged because of the confidence levels; we have Russian technology, Chinese technology and other technology competing with us, which is quite tricky. We appreciate the help we get from the Assembly, Invest Northern Ireland and Queen's, but we face a challenge where our business is going to be much more export focused and we have to spend a lot of our time investing in that.

The Acting Chairperson: Thank you, Mr Harrison. Mr Raymond, do you want come in?

Mr David Raymond (Aerospace Defence Security): Thank you very much for having us here to talk to you. We do not have 70,000 employees; we are a very small company. I am the chairman of a small aerospace design company, BASE, with 40 people. We do design and stress analysis and sell that information to most of the big manufacturers worldwide, including Bombardier. If you bear with me, I will run through the SME position, particularly with reference to aerospace, the opportunities that that presents and how R&D can and does affect that.

In a small business, you want growth, profit, security and a whole lot of things like that. We look at our economy and see opportunities of a certain scale and think about how we can get outside that. We are working with companies around the world, but we are at a small scale. We look around and the question is this: what we can do to get R&D to be more of a driver for exports to create more jobs, more wealth and more choice here?

I may be wrong, but 90%, 98% or 93% of the companies in Northern Ireland are locally owned and are SMEs of 10 people or more. Our company has 40 people; some of them have 200 people. However, looking at the aerospace sector, as Leslie said, there are 45 member companies on our council — ADS — of which I am the deputy chair in Northern Ireland. SMEs tend to focus on immediate issues and things that are important to them next week, next month or next year. That is not outwith research and development. A lot of the research and development happens within a company and is to do with how things can be done better. That is not viewed necessarily as research and development. SMEs sometimes regard such research and development as being technology or information technology and something that they do not do. In fact, they do it all the time: they are thinking about improving all the time and are thinking all the time of doing something more effectively, cheaper, better and more competitively. They tend to focus on more immediate issues for that reason. That is an issue of scale, which is something I will come back to.

Companies like that are, by the way, all very well run and strong and have an international reputation in a small way. They are engineering, manufacturing and design companies with a great future and make a great contribution to this part of the world. They may look at the funding streams for R&D, and, if they are lifting their horizons, they might be thinking, "Maybe we could talk to some of the people we know in Queen's and look at some manufacturing technology." They look at the process involved in that and look at a one-year application to the TSB, for example. I have met with Iain Gray, the chief executive of the TSB, in London several times and talked about this. The SMEs think about the applications and the fact that they have to get two or three partners in Europe. That is beyond their scale and capability, yet they could have something really good. Consequently, the idea is set aside, and they are back to square one.

From the smaller companies' point of view, if it is a technology company, it can work with the university. The company could have a piece of high-level technology, which is extremely valuable. It could work at it and develop it into intellectual property. It is often thought that the intellectual property is then sold on, goes away from here and the company goes on to develop another piece of intellectual property, which is really good. However, the 500 jobs do not come out of that; they go somewhere else.

When an SME or small manufacturing company looks at doing something better or more economically, it looks at its customers, such as Bombardier, Airbus and Boeing, who continually say that they want the work to go to India or China. Yes; however, there are only certain pieces of that work. Often, what local companies do is of higher quality. It is easier to make, maintain and repair. There is a great deal of innovation and technology in those companies. Growing that is crucial to our economy. Without that, we tend to dumb it down to how much we pay people per hour in order to compete. We cannot do that; it is not going to happen.

I looked at some information on the UK research councils. The UK Government gives them £4·4 billion a year. The Technology Strategy Board, which I mentioned a while ago, is not an easy house to visit to get grant aid from because of the duration of the application. Nevertheless, to our minds, it is seen as being practical and on the ground, helping engineering and manufacturing projects for R&D. They have something like 7% of that. It is the wrong way round. Nevertheless, that is where it is.

You could suggest that there are two solutions from the point of view of SMEs in Northern Ireland. I suppose that the first thing is to say is that focus should be on SMEs' needs. Well, perhaps not; perhaps focus should be on the market's needs. Nevertheless, SMEs need to have an easier way to access support for research and development in areas that will actually make their businesses different. That is a clear, sound and practical need.

However, the problem that comes out of that is that they, then, have to think of the scale effect. You still have a SME with 50 employees. It has invented something or has developed a new process. If it has something and needs to know how to get beyond it, grow it, get investment, buy new equipment, build that area, that is not R&D. That is a different aspect of business altogether. However, that is something that can stop it dead in the water.

Then, you look at collaboration. Can you get companies to work together? Yes, you can. There are many good examples of that. However, the problem still arises as to how to move beyond that. I have seen companies that collaborated with a university and, in one particular instance, with a competitor. They came up with something. They developed it. They are the same companies, with 40 50 or 100 employees, that are out trying to get business five days a week. They are out trying to manage their accounts. They are out trying to look after deteriorating markets. They are doing all of that while, at the same time, trying to do this. They exhaust themselves doing that. They came up with a good solution. At the end of it, their first thought is whether they can sell it to anybody, because the next peak, going beyond that, is to get investment, create new product lines and get the sales team that they do not already have to go out and sell it to people who said tentatively that they wanted it. That is a hell of a hill to climb.

Given all of that, about a year ago, we started to look at how we could improve that, not purely for R&D, but to address the overall opportunity of which R&D is a significant part. With the help of ADS and others, we did a number of things. We started to look at what some of the major customers wanted and at collaborating. We got six interested companies together in Northern Ireland. They are six Northern Ireland-owned companies. They already sell in the aerospace circuit and in other sectors as well. Between them, they have turnover of around £50 million and around 600 employees. BASE is one of them. We started off with those companies and asked what interest we could generate in the major world aerospace brands in order to create a new business here that could move up the R&D scale, bring in investment to help us to do that and could also partner some of those companies.

We have had considerable success with that. We are already talking directly to Spirit AeroSystems. Two weeks ago, its vice president, directors and head of research and development visited here for the first time. They spent a day here, and they visited Invest NI. They had never been to Northern Ireland previously. That company has a $5·3 billion turnover. It has 1,000 employees in Prestwick, which is

just across the way. It has factories in Wichita, Saint-Nazaire and Malaysia. You might say that it will do all of its work in those places. No. Its strategy is to look for high value in the UK and in western Europe. Northern Ireland is strongly on its radar for manufacturing, and we are also talking to it about research and development. It can see that there is a scale here that it can become engaged and interested in doing business with.

We talk to Bombardier regularly. It has expressed a keen interest in working in partnership with us in R&D. Again, it has got to be on a scale. It cannot do that easily with a company of 10, 20 or 30 people, because of all the problems that we mentioned earlier. Bombardier has a turnover of $8·5 billion.

Goodrich has a partnership with Pratt & Whitney engine makers, and it has a turnover of $6·3 billion. I mention those numbers because it is evidence of big business and of access to opportunities that we do not have at this time. Those companies are talking to us about manufacturing and specifically about research and development opportunities. We have got to get to a sufficient scale to be able to access the funding and the partners who will work with us to help us to bring our businesses up to a higher level of competitiveness in the export market. That is our view of R&D in Northern Ireland in the aerospace industry.

The Acting Chairperson: Thank you very much, gentlemen. Before I open it up to other Committee members, I have a couple of questions. It is clear that there is a lack of confidence in SMEs, and all three of you mentioned that. That is not necessarily the case with your company, but it is overall. You said that a lack of market awareness is a symptom of that. How do we get round that and build confidence in the SMEs? You said that those companies are doing sterling work in the day-to-day running of their businesses. They are looking at tactics for the weeks, the months and the year ahead but are not maybe taking a strategic view, either because they do not have the capacity or are too busy with that day-to-day stuff.

Dr Orr: I will start off on that question. There are a couple of angles, and we need to get the companies to look outside Northern Ireland. A lot of that could be done through their attendance at trade shows and missions, and we need to get them to go on those. Invest Northern Ireland has trade shows and missions, but we need to focus more on aerospace defence and security. The Farnborough International Airshow is the biggest air show, and I believe the Prime Minister will open it this year. That is a key sales ground that we need to get the local companies to attend. A number of companies participate, but we need more to do the same. David talked about companies coming together. It would be key if those companies were able to come together and look outside Northern Ireland.

Mr Raymond: Leslie is absolutely right. Many of the companies go on trade missions and that is a key and important thing for them. However, often they do not follow that up. They put all their efforts into preparing for those trade missions, they go and come back and say to themselves, "That it is good, I met all those people, but what about that machine? Is it still working?" It comes back to the point about having a lack of resources to allow them to drive their companies forward. Some companies pull out all the stops and slowly grow and accelerate. However, I am talking about the overall picture.

I think that Leslie would agree. One of our companies — I cannot name it — has a turnover of around £7·5 million a year, and it is a very successful Northern Ireland company. Representatives of that company have told me that they have visited trade shows and have met other companies who tell them, "That is very interesting; we will see you next year," but nothing further happens. It needs the strength and the power of the sales team to follow that up.

Your question was about how we encourage companies. Most successful SMEs are either stressed because of a lack of orders and that is their only interest, or they have so much work that they can just about handle it and are equally stressed. It is cyclical. Those companies swing from one of those places to the other, and they are trying to manage it. To get them interested, we need to lift it to another place. I talked about collaboration, and that is one way of doing it. However, for government, it is about opening the eyes of those companies to what they can achieve and getting them to step up, join with others and try different things. You could talk to them all day and tell them that they should be doing R&D and they should be interested. They will tell you that you are absolutely right. However, given the scenario we have, we need another business model to help us to do that.

We are being helped by Invest NI to build that collaborative arrangement, so I give it credit for that. It has taken time to get it to the table but it is doing it, and that is fine. At the end of the day, more issues like that, where companies are able to come together to collaborate and bring their strengths, will get them interested like nothing else will get them interested, short of going and giving them a whole lot of money to do it.

The Acting Chairperson: You talked about the plans Invest NI put in place to assist. Is that enough to integrate EU funding into a Northern Ireland plan? Do you see that being of real product or does something else need to happen that is not happening? Do you see the work with Invest NI achieving something of greatness here?

Mr Raymond: The nature of our business spectrum is SMEs. Thales has been talked about, and, with respect, Bombardier, Wrightbus and organisations like that have the scale and can deal with that. They manage Invest NI and the Technology Strategy Board very well because they have the strength to do that. A lot of companies do not have that. You can give them advice but they know their own business. Listening to them carefully and making investment in R&D easier for them to access is absolutely critical. Unfortunately, maybe because Invest NI does not have control of TSB in all those things, a lot of that help is in how to work through this ridiculous process, which lasts a year but that they have to get through.

The Acting Chairperson: A number of you spoke about simplifying the process through streamlining. Will Horizon 2020 help that?

Mr Raymond: I do not know enough about that to be able to say.

Mr Harrison: From our perspective, most of our customers are government customers in other countries. So, the likes of Invest Northern Ireland is very helpful because it acts as a local government organisation. The exposure we spoke about operates on two levels. One is through trade shows and things like that and the other through trade missions. We all go to normal shows such as the Farnborough and Paris air shows. The level below that, however, when you are engaging with the R&T communities as opposed to just the companies, is where Invest Northern Ireland can help at times. We certainly had engagement with R&T communities in other countries across Europe with its help, which then gets us access to companies involved in that community that, perhaps, we would not otherwise have seen.

There is a process to be gone through with Invest Northern Ireland but it is not half as complicated as the EU process. I appreciate that there are forms to be filled in and committees to be gone through but if it is worth it, it is worth doing that. For a bigger company, I suppose that it is usually worth doing that, although I appreciate the issue of SMEs, etc.

Dr Orr: We do not know enough about Horizon 2020 yet but, because we are a nation of small companies, it would be good for Northern Ireland if the Executive highlighted how a region with small companies could benefit more from EU funding. That is key because we are not getting our fair share.

Mr Raymond: Iain Gray, chief executive of TSB, was brought over by ADS last year. I followed up and met him a few times in London. He said that they have £300 million a year to disperse and we are not getting our fair share of that. So, knocking on the door and talking to him, the picture was, "Well, this is our process and this is what you need to go through." That is fine but we need to have a way to make that amenable to SMEs but not as a policy, as in, "You must make this amenable to SMEs." It is about making it amenable to good business ideas, good collaborative ventures or to three or four companies coming together to try something. The key to it is making that easier to do, because if you keep driving it to the individual company, you are not moving away from that but coming back to the same problem all the time. The guy with 20 to 30 employees is limited in what he can do. We need to lift him up the scale a wee bit and give him a chance to be able to do that. Instead of coming together with someone in Germany, someone in France and two universities, let him come together with some of his colleagues around the countryside, or maybe someone in Scotland. He should aim at something that is workable and achievable, and then go for it; no question about it.

Mr Agnew: Thank you, gentlemen, for the presentation. Dr Orr, you mentioned various streams of financial support, including FP7, Invest NI, InterTradeIreland and a UK funding stream that I did not get the details of. Do you have figures as to how much each support pays into the industry, and how dependent the industry is on that support?

Dr Orr: I did not get a breakdown of what companies are getting from each region but, with regard to EU funding, I was surprised to find that a firm even on the scale of Thales in Northern Ireland is not benefiting from EU funding. There are only one or two firms, small numbers, benefiting from it.

A lot of companies responded that, yes, they are working with Invest Northern Ireland and some with InterTradeIreland. We are trying to get them more engaged with the Technology Strategy Board, and we had a number of events where we brought the Technology Strategy Board over here. The companies are absolutely dependent on the source of help to move forward.

Mr Agnew: I appreciate that you do not have the figures. Can you give us rough proportions?

Dr Orr: I do not have a breakdown.

Mr Agnew: That is fine.

You mentioned support for Queen's University a number of times. Where does that support come in? How does it fit in with the picture?

Mr Harrison: From our point of view, one of the centres of excellence at Queen's is aerodynamics, so we have a lot of connection with the aerodynamics chair and we provide lectures to Queen's as a part of that. The linkages include making sure that Queen's use the same tools as we do, so that we can outsource work to it to allow it to do academic and even postdoctoral activities. We sponsor those activities to help that community develop an expertise that has exploitation routes. That also helps us. We have provided quite a bit of sponsorship to do postdoctoral-type work in areas where we either would not have the time or would not be prepared to devote the level of expertise to over time. That is part of the engagement that we have with Queen's.

There are other areas too, such as the communications and information technologies people. They do research into things like systems on a chip. Those are very high-tech small electronic processing units that are very useful to us. We look at that. They also have a lot of activity on image processing and that sort of thing. So, there is interaction. It is not just Thales here in Belfast that has direct contact with Queen's University but Thales in the rest of the UK.

Mr Agnew: Let me just ask one final question. Export was mentioned. Obviously, exports are key in this industry, and indeed, in the economic strategy, growth through exporting has been highlighted as key target. Are there particular countries that you target when you are looking at trade missions? Are particular countries the best areas to export to, or which you would seek to target for exporting?

Mr Raymond: As far as Aerospace is concerned, anywhere, basically. Obviously, it is not just anywhere, but America, Asia, India, China, Europe — everywhere. Leslie has the figures. The expansion of the commercial aerospace industry is so great and widespread across the world. It is the one place that we have to be. Without question, if we could build our business there, on its own, it could transform the Northern Ireland economy. China will have a bigger middle class in the next 20 years than the enlarged European Union. Those people will want to visit their grandmothers. They will only do it one way, and that is on a plane. That is very simple. Some 35,000 new aircraft will be needed over the next 20 years. That is new aircraft, apart from the ones that are being maintained, fixed, refitted and all that sort of stuff. It is not going away; it is growing and it has huge possibilities for us. With regard to which country to go to, they have a lot of people in their industry.

Dr Orr: Page 14 of our booklet highlights exports of £86 million in this sector from Northern Ireland, which is for sales right across the world. As David said, a number of sectors are suffering as a result of the financial downturn. In this sector, however, passenger numbers are growing at 5% a year. The business is expected to grow from a current worldwide market of £200 billion, where we have £1 billion

of that £200 billion, to £300 billion in 10 years' time. If we are to maintain our current Northern Ireland market share, it will require 3,500 new jobs. Our goal is to increase that. Our goal is to do more than maintain our market share. There is real opportunity in the sector.

Mr Harrison: With regard to emerging countries, clearly China is an issue, as is India. There are the BRIC countries — Brazil, Russia, India and China. In our industry at least, we found that there is a challenge to R&T, because most of those countries expect us to transfer technology of some sort as part of the deal. So, we have to protect that by ensuring that we do the R&T efficiently here in Northern Ireland. Increasingly, therefore, we are faced with the situation of being given a contract, but we are expected to give a level of technology in return. We like to stay ahead. Investment in R&T in Northern Ireland would allow us to do that. It is important to us as a company, but it is also important for Northern Ireland to stay ahead of those other countries that are hungry, not just for the product, but for the technology and the know-how behind it. It is a big challenge for us.

Mr Agnew: I asked Dr Orr about financial support. How much does your company receive from the various support streams, and how vital are they?

Mr Harrison: The help that we get from Invest Northern Ireland is certainly very important. It is a percentage of what we do. We invest a lot more than we get. However, it is important to us, and it is in those risky areas at the front end of the technology streams. It is not down to the production end; it is not quite blue skies, but it is the grey skies before you get to the hard-nosed production area. That is where we get the help. We have a thing called the valley of death, which is where you have a good idea, it gets a little bit of work done in the laboratory, but it has to get to market. The valley of death is where that idea dies and you do not have the funding, or you have a little bit of the funding but you do not have it all. That is where Invest Northern Ireland can really help.

Mr Flanagan: To follow on from Steven's point, initially, we were told that companies are absolutely dependent on that funding to move forward. Do you agree with that statement, Mr Harrison? You said that it was very important, but someone who spoke previously said that companies were absolutely dependent. Would you say that your company is absolutely dependent on the funding it gets from Invest and other funding streams?

Mr Harrison: It was important that Invest Northern Ireland gave us assistance and help at the front end of the business. Without it, we would not benefit from being able to develop products that are competition-beating. We could probably keep up with the market, but we could not move ahead. It is the additionality that Invest Northern Ireland brings that allows us to make that step ahead of the rest of the market and keep the business moving forward.

Mr Flanagan: The graph on page 14 shows that 44% of the exports that leave Europe do not go into America. Where is the majority of that 44% going? It is an amazing statistic, and it is probably an anomaly for any industry here that nearly half its exports are not going to Europe or America.

Dr Orr: What I highlighted there was very much the US or the EU, and we have bucketed everything else from Asia to Latin America to Canada, which, as far as Bombardier is concerned, is quite a big shipment. It is really the rest of the world.

Mr Raymond: I will give you an example. Our company base has a co-operation agreement with an Indian design company that sells to Bombardier. That company employs us to do highly specialised work that it cannot do.

Mr Flanagan: That is fine. It is a strange statistic when you look at other sectors where at least 70% is normally in the EU or America.

Mr Raymond: You are right, but that reflects the truly global nature of the business. In all continents, it is strong and growing.

The Acting Chairperson: It could be true to say that we are trying to encourage those companies to spread globally. That is where they will see their growth.

Mr Raymond: It is the right business to do it in because there is national need for the company that is buying it. If someone wants to build aeroplanes, we partner with them and help them to do that and design them. They want to operate profitable airlines and want their population to be satisfied that it can travel and has freedom of movement. So, all those things work for them.

Mr Flanagan: I have another couple of questions, but I will be brief. Other organisations that have appeared before the Committee, such as further education colleges and the CBI, were very straightforward in the type of work that they do. Can you give us some practical examples of the sort of research and development your organisation carries out? What is the benefit of that research and development?

Mr Raymond: In design work, we are looking at ways of manufacturing composite components for aircraft that are more resistant to damage and more easily repairable because it is a new material, relatively speaking. That is very important to companies that want to make lighter aircraft that are cheaper to run, etc. That is in the early design phase.

On the other side, very often, small engineering companies in Northern Ireland are in a build-to-print situation. In other words, they are given information and told that they have to make 10,000 of those products. We are looking at that and asking how they could be redesigned slightly to be more effective, easier and more economic to make. That directly competes with low-cost economies in doing that. Those are two things that are at different ends of the spectrum. It is not as sophisticated as Thales, but it is looking for the same result at the end of the day.

Mr Flanagan: Is that largely in the aerospace industry?

Mr Raymond: In my case, yes.

Mr Flanagan: Do you have anything to add in respect of security and defence, Mr Harrison?

Mr Harrison: There is a crossover between the aerospace industry and our industry. We have done work with the likes of Queen's University on novel ways of controlling an aircraft. Conventionally, that is done using flaps, rudders and elevators, but there are novels ways of doing that by getting rid of those actuators and using airstreams or other more efficient devices that cut down the cost, reduce the weight on the aircraft and reduce the weight on any other flying object that we manufacture. So, there is a range of front-end technologies like that.

We are also involved in a variety of products that have commercial and defence application, such as laser technologies, which you can find everywhere when you walk around the supermarket. Those sorts of technologies have dual use, so we tend to be involved in those as well. So, it is a very wide application.

Mr Raymond: The other aspect is that an aircraft has a 20-year lifespan, and an awful lot of things happen to it during that time. A lot of retrofitting and change takes place, and a lot of R&D that is done is put into them later to make them more efficient. For example, aircrafts get new engines to make them more effective. So, the R&D work is quite broad in its scope.

Mr Flanagan: Is much research put in to finding out the impacts of the more controversial products that the industry designs and uses, particularly the Starstreak missile, which is listed on page 10? What sort of research and development is done to find out the impact that it could have on people who might turn out to be innocent casualties of war in far-flung corners of the globe? Is that something that your company looks into, or is that left to national governments to deal with?

Mr Harrison: First, I have responsibility for safety and environmental effects in respect of the products. The first thing is that they have to be safe for the general population. In other words, in peacetime, they have to be safe and not harm anybody. Secondly, environmentally, they have to be manufactured using a clean process, and, even after they are used, the effect on the environment in other ways than were originally intended to has to be in line with all the green technologies etc that are around. Yes, we design from the point of view of safety and environmental impact.

Mr Flanagan: So, it might wipe hundreds or thousands of people, but, if it does not cause any damage to the environment, it is ruled all right by your company.

Mr Harrison: We provide to a requirement. Our company is providing to a customer. As a company, we simply provide to a requirement, and any Government around the world can ask for that. On a point of correctness, the Starstreak missile is a precision system.

Mr Flanagan: I understand that.

Mr Harrison: We are not talking about the nuclear industry here or anything like that.

The Acting Chairperson: I will have to pull it back to R&D and the business opportunities that the companies have.

Mr Dunne: We welcome ADS here. It has been an informative and hands-on session, and we really appreciate it. As a Committee, we express our thanks and appreciation for the good work that you are doing, and the input that that has on the local economy needs to be recognised. We also appreciate your comments on the work of Invest NI. The MLAs in the Northern Ireland Assembly have been supportive of your work. We will also make sure that the Minister is made aware of it, and I know that you appreciate the work of Arlene Foster and the commitment that she has made to you.

Most of the issues have been covered. I know Thales very well, having worked alongside it in my previous employment. I recognise the good work that it has done. It works to high-quality standards and is very professional. It is renowned for the work that it has done throughout the world. Ronnie, the points have been well made. Our main objective is to ensure that the next phase of funding is simplified. Do you see Thales locally getting involved in making applications for funding in R&D in the future?

Mr Harrison: Yes. In fact, our general approach to R&T is that we take a strategic view. We try to do three-to-five year involvements. The company commits to saying what its strategic plan is, and we will share that with the likes of Invest Northern Ireland or some other group and invest against that. Our plan is always to think strategically. It is not just to do the short-term stuff, but to ask, over this period of time, what we can guarantee on our commitment to R&T locally and to jobs. In line with that, we leverage funding that is available to us. We intend to invest, and we already have plans in place for the next three years.

Mr Dunne: Good. Leslie, you talked about Bombardier. Has it used that funding in relation to its technologies? We are aware of the leading-edge work that it has done on composites.

Dr Orr: Bombardier has participated in and benefited from EU funding programmes. It is one of the few companies in Northern Ireland that is benefiting from that.

Mr Dunne: David, as you mentioned, the problem is that the existing system is too complex, cumbersome and off-putting for SMEs. Is there a risk for SMEs in collaborative working because you let your neighbours know what you are doing?

Mr Harrison: That is good question. The problem is not so much that, but, if people come together, they collaborate not only to do R&D work but to win bigger pieces of business. Doing R&D work is part of that, and that is seen as part of growing a bigger business for the group, rather than me looking at what he is doing and him looking at what I am doing. It is this business of taking it to the next stage so that, if you have three or four companies working together on finishing, machining and design, they are talking to manufacturers on a bigger scale. They are saying that they would like to bid for much bigger packages of work, involving tens of millions of pounds a year, rather than a few hundred thousand pounds a year. Therefore, they are also listened to quite strongly by those manufacturers, and we quoted Spirit, Bombardier and Goodrich as examples. Those companies could look at doing some collaborative R&D work with us. So, the tension between the companies is not like that in that instance. That is why that is probably the best model to take it forward with. I understand that small companies find it difficult to talk to each other at the best of times about what they are doing. So, it is advantageous to lift it out of that scene.

Mr Dunne: We have talked to a number of further education colleges — we had one in before you. Do you see where they perhaps would have a role in training staff and running training and development programmes on how to access European funding? Is that a possibility or something that is worth checking out?

Mr Raymond: I do not see any problem with that. Anything that simplifies it is good. My only caution is that, if you have a complex thing to start with, investing talented people's time in working out how to work through that complex thing is advantageous to the beneficiaries. However, finding a simpler way to do this has got to be more useful. We have examples of large companies that have failed. We have worked in parts of Bombardier and, on occasions, failed to get access to large funding, and Bombardier is no mean chicken. When that happens, what hope do you have for a small company doing it? I do not know; I think that it would be useful to look at that, and —

Mr Dunne: It is worth exploring.

Mr Raymond: — to explore it. Yes.

Mr Dunne: We should be thankful for the good, positive comments about the work done by Invest NI in particular. We often hear the negative stuff, the bad news, but thank you for the positive comments.

The Acting Chairperson: Thank you, Mr Dunne, and all members for the questions, and you, gentlemen, for your informative answers.

Mr Agnew: May I ask a final question?

The Acting Chairperson: As long as you are brief. People need to get away and we have quorum issues.

Mr Agnew: I need to get away, so I appreciate that.

Mr Harrison, to come back to Mr Flanagan's point about where products are exported to, are there any conditions on the public funding that you receive? For example, exports to oppressive regimes with which the UK on one hand may have trade barriers but on the other provide public funding.

The Acting Chairperson: I am going to —

Mr Dunne: That is not relevant.

The Acting Chairperson: If the gentlemen wish to answer, that is fine. However, the question is really not about R&D or the business opportunities that we are here to discuss.

Mr Agnew: It is about funding by this Department, Chair.

The Acting Chairperson: Again, I do not feel that it is appropriate for today's agenda. I want to draw back on that, if I may. You are free to ask about it after the meeting, Mr Agnew. I just do not want to lose the present focus on R&D.

Gentlemen, thank you for your time. I wish you all the best for the future.