EUROPEAN AND EXTERNAL RELATIONS COMMITTEE

Tuesday 24 October 2006

Session 2

£5.00

Produced and published in Scotland on behalf of the Scottish Parliamentary Corporate Body by Astron.

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EUROPEAN AND EXTERNAL RELATIONS COMMITTEE
14th Meeting 2006, Session 2

CONVENER

Linda Fabiani (Central Scotland) (SNP)

DEPUTY CONVENER

*Irene Oldfather (Cunninghame South) (Lab)

COMMITTEE MEMBERS

*Dennis Canavan (Falkirk West) (Ind)
Bruce Crawford (Mid Scotland and Fife) (SNP)
*Phil Gallie (South of Scotland) (Con)
*Mr Charlie Gordon (Glasgow Cathcart) (Lab)
*John Home Robertson (East Lothian) (Lab)
Gordon Jackson (Glasgow Govan) (Lab)
*Mr Jim Wallace (Orkney) (LD)

COMMITTEE SUBSTITUTES

Ms Wendy Alexander (Paisley North) (Lab)
Derek Brownlee (South of Scotland) (Con)
Richard Lochhead (Moray) (SNP)
Nora Radcliffe (Gordon) (LD)

*attended

THE FOLLOWING GAVE EVIDENCE:

Jennifer Caswell (BioDundee Steering Group)
Ron Dunn (Institute for System Level Integration)
Iain Hyslop (Scottish Microelectronics Centre)
Moyna Kennedy (Scottish Enterprise)
Jim Reid (Haptogen Ltd)
Amanda Tannahill (Institute for System Level Integration)
Professor Anthony J Walton (Scottish Microelectronics Centre)
George Zajicek (BioDundee Steering Group)

CLERK TO THE COMMITTEE

Jim Johnston

ASSISTANT CLERKS

Emma Berry
Gerry McInally

LOCATION

Committee Room 2

Scottish Parliament

European and External Relations Committee

Tuesday 24 October 2006

[THE DEPUTY CONVENER *opened the meeting at 10:33*]

European Commission Growth and Jobs Strategy Inquiry

The Deputy Convener (Irene Oldfather): I welcome everyone to the 14th meeting this year of the European and External Relations Committee. I am convening the meeting because, unfortunately, Linda Fabiani is unwell. I have also received apologies from John Home Robertson, who is attending the Communities Committee's meeting, Gordon Jackson, who is attending the Subordinate Legislation Committee's meeting, and Bruce Crawford, who is in Belfast today. I understand, too, that although we are expecting Jim Wallace, he will be a little bit late. We usually meet on a Tuesday afternoon, but because of changes to business in the chamber this week we have had to change our committee schedule, which has resulted in clashes with the meetings of a number of other committees. I apologise to our witnesses for all that and thank them for coming along today and for submitting written evidence, which I am sure that colleagues have considered carefully.

I invite each of the witnesses to introduce themselves and to say a few words about the work that they do.

Ron Dunn (Institute for System Level Integration): First, I thank the committee for inviting us. We very much appreciate the opportunity to describe what we are doing in support of Scotland and the Lisbon strategy. I am the chairman of the Institute for System Level Integration, which has its campus in Livingston. My colleague Amanda Tannahill is our business development director.

We recognise that the Lisbon strategy is a statement of Scotland's requirements, in that the issues that are set out in it are germane to our future. From reading some of the submissions and from talking to third parties, it seems that there is a certain amount of pessimism about Scotland's progress towards meeting the goals of the Lisbon strategy, but Amanda Tannahill and I have come to give you what we believe is a success story. We consider that we are contributing directly to the achievement of the strategy's objectives.

We are a largely Government-funded initiative that has been in operation since 1998. Although we have had to modify our mission from time to time, to deal with changing economic conditions, we believe that we have been a success—we are still growing—and that we represent a model for other possible institutions in other high-technology areas.

When we started in 1998, which was a time of inward investment, we had the specific objective of producing postgraduate engineers for the microelectronics business. Cadence, which was moving into Livingston, considered that there was an extreme shortage of highly skilled design engineers—it required about 400 new graduates. That was impossible to achieve immediately, of course, and at the time the Scottish Office took the view that none of the major universities in Scotland on its own had the background to produce the engineers that were necessary. We were born out of a Scottish Enterprise initiative, which involved as the other founding members the University of Edinburgh, Heriot-Watt University, the University of Glasgow and the University of Strathclyde. Given that we have direct access to the electrical and electronic engineering and computing science departments of those universities, we draw on an extremely powerful pool of knowledge, expertise and research.

We set out to produce MSc graduates after a one-year full-time course. In order to matriculate, students required a first degree, which usually had to be of honours degree standard. Soon afterwards, we added a four-year course for engineering doctors, which at the time was unique in Britain. As members can imagine, a four-year full-time course that takes graduates with an honours degree or equivalent produces some excellent people. On average, we output about eight of those people every year. We consider that they are potential leaders of industry and, in general, they are snapped up. My colleague Amanda Tannahill will give you more background on how we have done that.

We specialise in the cutting edge of microelectronics. Modern systems today use what is called system on chip—although it might be more relevant to talk about system level integration—which involves complete electronic systems being embodied on single silicon chips. That throws up major design challenges, which are not addressed by traditional electronic design engineering. The market nowadays moves so fast that one must incorporate other people's designs in such chips. The value of those chips is enormous—they are worth many hundreds of thousands of pounds—but given the size of the non-recurring and tooling costs, they have to be correct at first tooling.

We realised in the early 1990s that it was not sufficient to produce high-calibre people and that we had to create close links with the industry that was taking them. We made progress over the years and we now have major interaction with global companies and Scottish small and medium-sized enterprises in the microelectronics industry. We assist those companies through a number of schemes and we have developed our own internal design team by recruiting industry people and retaining excellent graduates. Those people are problem solvers for a number of the SMEs that require to implement microelectronics technology in their products but have gaps in their knowledge.

We realised early on that the institute had to be accepted internationally. Scotland is too small a country for us to be pre-eminent in microelectronics and yet have a position in the world where we can compete with the emerging countries in the far east and eastern Europe in terms of design and low-cost manufacturing. To do that, we have to be recognised globally, and we put a great deal of effort into that.

It is important that the Scottish Government supports the initiative and allows it to expand. It would be easy for the Government to create within Scotland initiatives that would compete with us, but it must not do that. We watch out for that danger carefully. Of course, that also applies to the United Kingdom in general. There is no reason why we should not be the pre-eminent organisation in Britain—indeed, we believe that we are—and therefore we have to be careful that the Department of Trade and Industry and the Westminster Government do not set up parallel and competing operations south of the border. We consider that we represent Britain's expertise in the area. That should be recognised throughout the UK and not just north of the border.

The Deputy Convener: Thank you, Mr Dunn. I assume that you covered the comments of your colleague Amanda Tannahill, whom I welcome to the committee.

Amanda Tannahill (Institute for System Level Integration): Yes. Thank you.

The Deputy Convener: In that case, we will move on to Mr Hyslop.

Iain Hyslop (Scottish Microelectronics Centre): I am chief executive of the Scottish Microelectronics Centre, which is located at King's buildings. The SMC is a partnership between the University of Edinburgh, Scottish Enterprise Edinburgh and Lothian and Scottish Enterprise nationally. The centre's original starting point was in 1998, when the partners invested enough money to build the building that we occupy.

Our business model is the clever part of what we do. The centre uses the University of Edinburgh's facilities—and the spare capacity that is available in its tools and its people—to deliver services to industry. We started as a business incubator, and during the past six years we produced companies such as MicroEmissive Displays, Point 35 Microstructures, Critical Blue, Ice Robotics and a number of smaller companies. In the past two or three years we shifted our emphasis to the delivery of process development services to industry throughout Europe.

I echo Ron Dunn's comment that Scotland should not regard itself as a cluster in its own right. The cluster should be European rather than British. To have sufficient critical mass to take on the low-cost economies of China and India, or even the United States, we need to think of ourselves as part of a much larger bloc.

The centre is working on microelectromechanical systems, or MEMS. I believe that there is a big opportunity for Scotland in those devices. The leading edge of the microelectronics industry is constantly pushing to reduce the geometry size, and Scotland no longer has an input into that process. However, we have an input into emerging technologies that add functionality to the silicon. I refer to the addition to devices of microphones and other sensors, which make the silicon carry out what are called smart functions, so that it does something instead of just processing data.

10:45

The centre has been self-funding for the past six years. During that time, there has been no financial input from Government or Scottish Enterprise. We have a turnover of about £500,000 a year and turn in a profit of about £60,000 a year. We act as a commercial operation, running and living on our own profits sustainably. We have plans for the future. One big issue is that we are too small. The same is true of all the operations in Scotland that are like us. Although the vision for such infrastructure projects is good, implementation is always carried out on far too small a scale and with far too short-term a view. If we wish to encourage research, development, innovation, enterprise and entrepreneurship, we must take a long view and be willing to support specific projects a long way down the road.

Anthony Walton will provide the university point of view on what the SMC does and how we do it.

Professor Anthony J Walton (Scottish Microelectronics Centre): I work for the University of Edinburgh and am a director of the company that runs the centre. My responsibility is to look after the technology and to ensure that we have access to equipment for research purposes, for the commercial work that we do and for the

companies that are incubating in the centre. There are tensions, because we have access problems, bottlenecks and so on, which we have to work through.

One of the big problems that I have is trying to ensure that we have up-to-date equipment. The equipment that we use is extremely expensive; typically, the ticket price of each item is about £1 million. There is also a large overhead to keep that equipment running and for clean rooms. As Iain Hyslop said, our business model is quite smart for a commercial activity, because we rely on our research income to buy equipment and to keep it operational. The incubation activities and the commercial work are a marginal cost on top of that. That is one of the good things about the centre.

The Deputy Convener: Your introductory remarks have been helpful and have answered some of our questions. Before I open the floor to colleagues, I would like to explore further the issue of funding. Ron Dunn explained that the Institute for System Level Integration is mainly Government funded, whereas the Scottish Microelectronics Centre is mainly self-funding. Has the centre applied for Government assistance? I know that both institutions operate commercially, but has the private sector been involved in or given support to the research aspects of your work?

Iain Hyslop: I put all the work that the centre does into the category of development, within the spectrum of research and development. We are not involved in any volume manufacturing activity. We do a considerable amount of work with a number of commercial companies that input either into research programmes that are being conducted or into partnerships. All our activities, from university research through to commercial work—my end—are commercially focused. Most of them involve industrial or commercial partners.

We have not successfully sought commercial funding to develop what we do. That approach has been considered, but there were various reasons why we did not proceed with it at the time. At the moment we are looking at how we can expand our facilities, because we believe that there is a commercial market for us to do substantially more than we currently do. We are starting to talk to various people about how they would partner us and help us to develop our facilities for their, our and Scotland's benefit.

Amanda Tannahill: Although the ISLI still receives about a 50 per cent contribution annually from Scottish Enterprise, we are generating and leveraging about £1 million a year specifically through our engineering doctorate programme, which is carried out by higher-level researchers who go on into management positions in industry. All those contracts—about 30 are in operation—are funded jointly by the Engineering and Physical Sciences Research Council and private industry. We cannot move the contracts on without private industry sponsorship of and partnership in that programme.

That has been something of a jewel in the crown for the ISLI. It is a significant programme that makes a significant contribution to the transfer and exploitation of knowledge by our industry partners. The programme is important in providing a return on the industry's investment because any new knowledge that comes out of the scheme automatically belongs to the sponsoring company. The scheme goes full circle, exploiting the knowledge within the universities and embedding it back into the sponsoring companies.

The Deputy Convener: That is very interesting.

Amanda Tannahill: We sit between the academic base and industry—we have done so since before the intermediary technology institutes were formed. We are an intermediate institute that sits in the midfield area, and we continue to look for creative ways of bringing industry closer. A couple of weeks ago, we announced a new collaboration with Mentor Graphics to make available free of charge to small and medium-sized enterprises some of the leading-edge design technology tools. The ISLI is hosting that scheme on behalf of Mentor Graphics, which is an American-based multinational. That is the sort of scheme that we provide. From the point of view of both Mentor Graphics and the ISLI, that is a major investment in supporting the SME base not just in Scotland, as we will make the scheme available beyond Scotland, although Scottish SMEs will be the first port of call.

Professor Walton: There is a lot of support from industry for the research activity that goes on in the SMC. For example, we are rather pleased to have received $1 million from an American semiconductor company for work on some of the MEMS activities that it is going to integrate into processes. We have also just completed a £650,000 contract with a Japanese company to make some drug delivery systems for it. The research is receiving contributions from industry towards creating an environment in which we can produce technology and support the running and purchase of equipment.

The Deputy Convener: Thank you. I have several other questions, but I will let my colleagues ask their questions first.

Dennis Canavan (Falkirk West) (Ind): My question relates to co-operation with organisations in other European Union member states.

The ISLI's submission states that it has

"provided advice to government agencies in Australia, Japan, China and South Korea on the creation of similar Institutes"

in those countries. Can you give me some examples of contacts that you have made with institutions in other EU member states? What lessons have been learned, and what potential is there for co-operation projects in research and development?

Amanda Tannahill: We have had mixed success in participating in framework projects, which is the most natural door for us to push at in relation to collaborative projects. With the University of Edinburgh and others, we are currently partnering in a Europe-wide network of excellence in the microsystems space. We are actively involved in that project.

The ISLI has a wide network of contacts in other member states. The most relevant observation to make, relative to what you are looking at, is that our chief executive, Tony Harker, has been invited to join the early-stage discussions on the European institute of technology. He met the person who is leading that work about three or four months ago in Brussels. We see that as a key opportunity to leverage into that wider network the investment that is already being made in Scotland. We welcome the initiative for a European institute of technology, and we think that it will strengthen the exploitation of technology in Europe.

The ISLI operates effectively as a small company. Although we have university parentage, we are not a university per se. That makes participating, and investing to participate, in some European projects—moving in and out of Europe for meetings and so on—prohibitively expensive for us. We have not had a high success rate with the projects that we have got into, which I think is because we are a relatively small organisation. It has been a matter of scale. Because of their size, a lot of the large European companies and organisations in the network in Europe have been much more successful than some of the smaller organisations. We would like more support to be given for getting involved at the grass roots, which is very expensive.

Iain Hyslop: Our comments are similar to those of the ISLI. We have extensive partnerships throughout Europe. We work with the major institutes in our field, in Grenoble and Belgium, and we regularly network with those other operations. Framework 6, which is now becoming framework 7, is the door that we push at, as Amanda Tannahill mentioned. As a very small company, we find that it would simply be impossible for us to lead a project. The level of bureaucracy involved in such projects would kill us. We simply do not have the people to do that level of work. We also find that, because of the timescales involved, if ideas that we put forward do not start to get funding for two years, they will probably already be gone before the project can ever start.

We try to get involved through providing specific expertise and knowledge to back up projects that are instigated by much larger companies and organisations. For instance, we are involved in a project—led by the French—on minifabs, through which we aim to create a more agile environment in which semiconductors and MEMS can be manufactured. We are bringing specific expertise on process technology. We hope that that major project will get funding in the near future. We have to get a foot in the door and get our names known. Then, we can start to build our presence in such projects. For a Scottish operation the size of the SMC, the overheads are far too high for us even to consider trying to lead or drive those projects.

Professor Walton: To echo Amanda Tannahill's point about scale, the organisations that we deal with, such as IMEC—the Interuniversity Microelectronics Center—and LETI, are two to three orders of magnitude larger in size. It becomes very difficult to get into European projects for that reason.

Amanda Tannahill: That observation completely resonates with me. It is not that we do not have good technologists, knowledge and experts; it is a question of scale when it comes to getting to the table to play in the first place.

Phil Gallie (South of Scotland) (Con): I am slightly puzzled by Mr Dunn's opening remarks. He was very keen to maintain the Livingston operation as a unique involvement in the UK. Mr Hyslop went on to suggest that we should perhaps be looking Europe-wide. I thought that that meant that he wanted to keep involvement unique in Europe, given the amount of expertise that is being developed and the uniqueness of the project concerned. We then heard about expanding into Europe, co-operating with Europe and co-operating with others—in the UK, presumably. Where are we on this? Why are we looking to set up what would be competing projects in the countries to which Dennis Canavan referred?

11:00

Ron Dunn: I apologise if I have misled the committee. When I spoke about uniqueness, I meant that, when we were established in 1998, our mission was unique in microelectronics—there was nothing like it elsewhere in the world. People have observed our progress, and I suppose that the best form of flattery comes from people trying to reproduce what we have been doing. That has happened in a number of countries. The first was

probably Australia, where some people wished to set up similar, but not identical, organisations to address high technology. They engaged the services of our chief executive at the time, Professor Beaumont from the University of Glasgow, to advise them on the possible pitfalls and so on.

One difficulty that we always have is that, in order to be recognised as a leader globally, we have to communicate with and help people, and acknowledge that they will emulate what we do. One very contentious issue to which I am sure we will come during the morning is that because a great number of our students are Chinese, Indian or of other nationalities, it looks as though we are educating our opposition. However, in doing that, we are creating a group of alumni who have allegiance to the institute in Livingston. We get more students by word of mouth from those people. As the organisation is at core supported academically by four universities, we do not want to discriminate among the applicants for our courses, other than on the basis of intellect and capability. That is just a fact of life. We simply have to pedal faster to stay ahead of the game.

Phil Gallie: I would like to return to that issue later.

Mr Charlie Gordon (Glasgow Cathcart) (Lab): We have strayed into a related point that I want to raise with Mr Dunn. You said that the graduates from your engineering doctorate course are snapped up. I understand from your submission that some of the graduates are retained by your institute and provide support to small and medium-sized enterprises that, for example, are grappling with design issues. You started to answer my question, which is: where do the other graduates go? I get the impression that, in the main, we are talking not about Scottish graduates working in Scotland, or even foreign graduates working in Scotland—if I understood your point about that—but about foreign graduates who now work abroad.

Ron Dunn: No; that is not the case.

Mr Gordon: Can you tell us the proportions or break down the numbers for us?

Amanda Tannahill: The engineering doctorate is a four-year programme. Depending on when the students graduate, we produce on average eight engineering doctorates a year. The industry sponsors for those students are UK wide, although the majority of sponsors are Scottish. At present, probably two thirds to three quarters of the sponsors are Scottish-based companies. The majority of the sponsors retain the graduates and offer them full-time employment at the end of the four years.

Mr Gordon: So they have a contractual relationship with the graduates.

Amanda Tannahill: This is splitting hairs, but the contractual relationship is through the ISLI, although they have a pre-existing relationship with the researchers. In our experience, the majority of students on the engineering doctorate course tend to take employment with their sponsors; as I say, they can be anywhere in the UK. The scheme is open only to UK-based companies or companies that have a UK presence.

The MSc course is the one that involves the international students that Ron Dunn mentioned. Of our current cohort of 42 new students—they started just two weeks ago—roughly half are international students and half are European or UK domestic students. On average, roughly a quarter of the students on the course are UK domestic students. The important point about the ISLI model is that, in tracking our alumni, we have found the institute to be acting as a talent magnet for Scotland. Historically, the proportion of international students who are retained in employment in Scotland is higher than the proportion of those who originate from Scotland who are retained.

Our international student base has shown an immense appetite for taking advantage of fresh talent. The students want to stay in Scotland. The tracking information that we have suggests that an increasing percentage of students are staying in Scotland because of the opportunity presented by the initiative.

Mr Gordon: That is helpful.

Professor Walton, you said that in your business model you deal with the high costs of, for example, maintaining your expensive equipment through income from research. Are the marginal costs to which you referred then charged to enterprises at the commercial application end of the spectrum? I simply want to get a feel for how you decide whom to charge for the economic cost of maintaining your equipment and whom to charge the marginal costs.

Professor Walton: We are able to carry out incubation activities and such like at a marginal cost in the sense that the company that runs the incubation centre does not have huge overheads and requires only two or three members of staff. However, access to the equipment is charged at commercial rates, and I ask Iain Hyslop to comment further on that.

Iain Hyslop: Every job that we carry out for a commercial customer is charged at a commercial rate that the market will stand. By marginal costs, we mean that the cost of delivering such activity to the SMC is marginal to the costs of the research activity itself; it is not what we charge.

Mr Gordon: So they are internal costs.

Iain Hyslop: Yes. As Anthony Walton said, that allows us to be a micro company, which means that we can be very light, flexible and agile. In a fast-moving market and a very dynamic industry, that is absolutely critical.

Professor Walton: As far as support for our research activity is concerned, the major problem is that we receive no funding to meet our baseline operating costs. As a result, it is a real struggle to obtain the £1 million a year that we need to keep the lights on and the people employed.

Mr Gordon: Both groups on the panel have indicated that they might not yet punch their weight with regard to accessing EU resources. The committee is well aware that, with the advent of the seventh framework programme, such resources might well be more significant to our nation than European structural funds have ever been.

Both groups have said in separate contexts that they lack critical mass. I realise that your organisations are different, but might you be able to increase your critical mass if you got together? After all, it is essential that Scotland's private, public and intermediary institutions are on the ball in accessing resources from programmes such as the seventh framework; such activity cannot be seen simply as some sort of add-on.

Iain Hyslop: We collaborate regularly with each other on specific projects and applications. However, even if you put together all the infrastructure projects in Scotland, you would find that the sum total would be much smaller and much less well supported than the projects run by, say, LETI in France. LETI gets €1 billion from the Grenoble regional Government. We do not get anything.

Mr Gordon: Well, that is the heart of the matter.

Iain Hyslop: Absolutely.

Mr Gordon: We are trying to get to grips with how, in the context of the Lisbon agenda, we address our R and D performance as a proportion of gross domestic product. As you know, the current figure is nothing to write home about, and we have a long way to go to meet the 3 per cent European target.

Iain Hyslop: Traditionally, Scotland has made pinpoint interventions into whatever has been the trendy thing at the time. For example, it used to be electronics and, then, microelectronics; it is now biosciences. However, the French have chosen specific markets; have said, "We're going to excel in these areas"; and have focused very hard on and made heavy long-term investment in those activities.

What Scotland has not done is use the model used by the Germans, French and others throughout Europe, which is to build and facilitate and wait for the business to come. Scotland has always tried to provide funding for two years and then leave the business on its own. It is a totally different approach, and it drives us to be small operations that are all sub-critical.

Mr Gordon: So in essence you are saying that the work that executive agencies do is too small and short term.

Iain Hyslop: Absolutely—and not focused.

The Deputy Convener: Those are good points. Mr Dunn, do you agree? You have been on the go for a long time, but you said that you are mainly funded by Scottish Enterprise and the Government. Do you agree with those points, or is there another issue?

Ron Dunn: I agree entirely. Being a realist, one has to recognise the size of the Scottish economy and population. We are not France. Having said that, I agree with my colleagues entirely, and that raises or reinforces one or two points. I said earlier that it is extremely important that Scotland is selective about what it does and that when it embarks on an initiative, it ensures that it is of at least British dimensions. In other words, if scale is the problem, the last thing that we want is another microelectronics institute in the Cambridge area. That would reduce our effectiveness and, as we have the expertise, we see no reason why we cannot be held up as a British initiative that is located in and funded by Scotland. Scotland has to choose very carefully what it wants to invest in.

The Deputy Convener: Some of that lends support to your earlier comments about the importance of, for example, a European institute of technology, which might provide a framework for taking the work forward.

Mr Jim Wallace (Orkney) (LD): I apologise for being late, and if this question has been answered already, tell me and I will read the response in the *Official Report*.

I want to follow on from the reply given to Charlie Gordon. One key issue is how far we lag behind on research and development, particularly in the private sector. Given your position, Mr Hyslop, where there is an interface between the public and private sectors, do you think that there are other reasons why the private sector in Scotland does not seem to invest as much in R and D? You might want to develop the points that you just made about there not being sufficient focus. Is it a public sector problem that feeds into the private sector, or do other factors inhibit private sector R and D?

Iain Hyslop: There is a historical issue, in that in the 1960s, 70s and 80s the focus was on inward investment. Essentially, we brought to Scotland screwdriver plants that did not do R and D. Now that we have lost them, any prospect of bringing to Scotland R and D for the global multinationals has gone. If we had tried to secure the R and D side of the businesses as well as the jobs in screwdriver plants, we would now have a much more substantial R and D base.

The issue for the future is that we are following the agenda in "A Smart, Successful Scotland". There is a classic example of the problem at the moment. As a nation, we punch well above our weight in start-ups and success rate. We start a lot of companies and build them up through the R and D phase, but then we let all the manufacturing jobs go—to Germany in the case of MicroEmissive Displays. If another European country can invest in one of our companies to support its manufacturing, what does that say about the future for "A Smart, Successful Scotland"? We will keep only a small element of any company, if we keep it at all. There is some skewed thinking.

Professor Walton: It is probably worth saying that MED went to Germany simply because it could get large grants to buy equipment and go into a ready-made, clean room at the Fraunhofer Institute to do exactly what it was doing at the Scottish Microelectronics Centre. If it could have got similar amounts of money and gone to a similar place in Scotland, it would definitely have stayed.

Iain Hyslop: The issue for Scotland is why we did not keep such a company, rather than the specific example of MED. If we cannot keep such a company, our whole strategy has a serious flaw.

11:15

Mr Wallace: I understand that many people have been frustrated for many years by the fact that we have not capitalised on or commercialised much of the excellence in our universities and in institutions such as yours. Because of that, do we lose out in the longer term on R and D, or does the loss relate to manufacturing?

Iain Hyslop: Such a loss is an inevitable consequence. If a business can be moved to Germany, where the manufacturing takes place, I suspect that it is not long before the R and D are moved, too.

Amanda Tannahill: I observe that some of what we are discussing is a chicken-or-egg question. The ISLI was born out of the Alba Centre project, which was highly branded and promoted. It is interesting that that project has good recognition internationally. By being part of that brand, the ISLI has earned much reflected glory and an international reputation.

In Scotland, the Alba brand is seen not positively, but negatively. Therefore, locally, we are working against negativity. A focus away from microelectronics, electronics and such technologies seems to be happening in some of what Scottish Enterprise and the Scottish Executive do, but anything in which we are involved in the future will be critical to enabling—even the biotech work needs the electronics technology to support it. MEMS—on which Scotland has a chance to differentiate itself—will not stand in their own right; they need microelectronics behind them. For many companies, why more is not put into that is a tortured question.

An interesting by-product of many closures and withdrawals of large companies is that we are working actively with and supporting many young, small companies in which talented engineers who have been made redundant have reinvested their redundancy payments. In the areas in which such companies work, the entry price of participation is high, so much of their R and D is expensive. I am not pleading the case for Government handouts ad nauseam to support such investment. With Mentor Graphics, for example, we have tried to lower the entry cost, to make some of the new, global, leading-edge technologies more accessible to smaller companies, which cannot afford to spend hundreds of thousands of pounds on design equipment.

I strongly agree with Anthony Walton and Iain Hyslop that if we could obtain more operational support through the public purse to support making available infrastructure to smaller companies, more small companies would take bigger risks. At the moment, they cannot afford to do that.

When the ISLI was born, the Interuniversity Microelectronics Center was one of the international benchmark institutes. Even 25 or 28 years down the road, IMEC still benefits from a 35 or 40 per cent annual subsidy from the Flanders Government. That is decades after it was established. Here, we are expected to experience a decline in public funding and an increase in private funding in direct response. If we had parallel funding, we could build a better infrastructure to support the company base.

The Deputy Convener: Mr Gallie will have the last word.

Phil Gallie: I do not want to nit-pick the financial detail, but Mr Hyslop suggested that his organisation's basic turnover is about £500,000 a year and that its profit is £50,000 a year, whereas Professor Walton said that £1 million a year was

needed just to maintain access to labs. Will you explain the difference?

Iain Hyslop: That is exactly the point that we touched on before. The cost of running the SMC is a marginal cost, on top of the research that the university would be doing anyway. The university has done research in this area for 30 years; it owns the toolset and uses it, as it has always done. We take the spare capacity in that toolset and among the people and use it to deliver the services. We are a small, marginal cost on top of what the university does anyway, but we deliver services to industry on a much larger scale.

Phil Gallie: Thanks for that. I felt that it was important to cover that point.

Iain Hyslop: The point that I was trying to make is that since the initial investment, which built our building, there has been no significant governmental or Scottish Enterprise input to the operation. We trade as a commercial company, but we can do so only because of the business model.

Phil Gallie: You made the valid point that the objective should be to use your facilities to create better opportunities for Scotland's future economy, and you expressed reservations about whether that is happening. We heard from Mr Dunn about a success story, up to a point. However, that long-term objective is totally lost in your particular enterprise. What percentage of public money goes into the ISLI? How much private sector involvement is there? What benefits, in percentage terms, are coming out of that cash for the Scottish industry and economy?

Ron Dunn: When we started, we were funded by Scottish Enterprise with a four-year tranche of money, which was, to put it crudely, £1 million a year, out of which we had to pay the rent and rates for our building and so on, which are not insubstantial, because we are in good accommodation that is appropriate to what we do. Since then, we have developed the industry side to the extent that the Scottish Enterprise money, which continues, is roughly half our total income. It is matched by other sources, many of which are industry sources. Our total expenditure and income—we are not really profit-making—is currently about £2 million a year. That continues to increase steadily. As it increases, we plough the money back in a variety of ways, for example into continuous professional development courses for people in employment. I hope that that answers your question.

Phil Gallie: In effect, you get 50 per cent of your money from Scottish Enterprise. My understanding was that other cash was going in from local authorities and the universities. Is that a misconception?

Ron Dunn: Our money flows out to the universities. We are the purse, if you like, that holds the Scottish Enterprise money and we disburse it to the four universities for lecturer support and specialist support for honours projects and so on. In addition, we have a major grant to develop our in-house team working on MEMS. We have a scheme called the electronic design support service, which is separately funded by Scottish Enterprise, whereby we provide help to Scottish SMEs in a variety of ways—we do everything from examining their business plans to writing software or helping them with design tasks. In the past year, we have helped about 60 companies.

Amanda Tannahill: We have spoken to about 60 companies and worked with about 50.

Ron Dunn: That gives you an idea. Part of the question was about the impact on industry of the expenditure. It is difficult to quantify that. We are providing assistance and highly competent individuals, who also get management training at the University of Glasgow. We believe that they are the sort of people who will staff the senior management positions in the new companies, or start up new companies of their own, of which we have a number currently running. Have I answered everything that you asked?

Phil Gallie: You have covered the issues fairly well. I return to the comment that Charlie Gordon made about tracking individuals who have successfully completed your courses. What percentage of those people remain in Scotland, rather than returning to their home countries or going overseas?

Amanda Tannahill: Approximately two thirds to three quarters of those who complete the engineering doctorate have contracts with Scottish companies. The majority of those researchers go on to employment with the sponsoring companies. That means that of the eight students who complete the course each year, five or six are offered employment in Scottish companies. It is a slightly moveable feast, because it depends on the amount of time that a person takes to write up, submit and graduate.

I cannot give the committee figures for last year's MSc graduates, because they are only just getting employment. Historically, taking all the years that the course has been run, I think that roughly 50 per cent of those enrolled annually are international students—that is to say, not European or UK domestic students. A proportion of that 50 per cent of students—typically, 20 to 25 students—remains and takes employment in Scotland. That means that we are retaining in the Scottish employment base some of the talent from the ISLI's masters course.

The Deputy Convener: You said that that was aided by the fresh talent initiative.

Amanda Tannahill: Absolutely. The fresh talent initiative has made it significantly easier. There are about a dozen companies in the Alba Centre besides the ISLI. I think that I am right in saying that three of those companies are employing international graduates of the ISLI, and other ISLI graduate students have been employed within the campus. The number varies year on year, but when we did a gross analysis a year ago we found that a percentage of the international students who come here remain in Scotland.

The Deputy Convener: I am conscious of the time, because we had to reverse the order of our panels of witnesses and our other panel may have time commitments. Thank you for attending and for submitting written evidence. All committee members will have found the session informative and interesting. It will assist us with our deliberations and when we come to write our report.

11:28

Meeting suspended.

11:36

On resuming—

The Deputy Convener: I welcome our second panel of witnesses, whom I thank very much for their attendance. All committee members have a note of the submission from BioDundee steering group. We have all had time to have a detailed look at it, but we would be happy for the witnesses to introduce themselves and make a few initial remarks.

George Zajicek (BioDundee Steering Group): I am business development director of a company called Axis-Shield plc, which is based in Dundee. Before that I was marketing director of Shield Diagnostics. I am also chairman of a company called Drug Development Solutions Ltd—DDS—in Dundee, which is a management buy-out from the university and hospital trusts that specialises in clinical pharmacology drug trials at the Ninewells complex.

I have been in Scotland for a long time. Shield spun out from the University of Dundee in the early 1980s and found a base in the technology park in 1985. The company was set up with venture capital and was floated on the London Stock Exchange in 1992, and ours was the most successful share in 1997, thanks to our work in cardiovascular disease, with which Scotland is familiar. We are now called Axis-Shield, having merged with a Norwegian company. Our headquarters are in Dundee and we moved our manufacturing from Oslo to Dundee because that was deemed to be more efficient at lower cost. The company's turnover is now around £60 million, of which £10 million was spent last year on research and development.

We have certainly benefited from our location in Dundee, where we have a stable workforce and good support from Scottish Enterprise Tayside and BioDundee, about which Jennifer Caswell will talk. We are also involved in the ITI Techmedia biosensor platform programme—we hope to commercialise the results of that. We have also benefited from regional selective assistance grants, so we are happy in Scotland and intend to stay here and build our company.

Jennifer Caswell (BioDundee Steering Group): I work for Dundee City Council, which is the lead partner in the BioDundee partnership. It is a local partnership involving the public, private and academic sectors and promotes the growth of life sciences in the Dundee area. We get our funding from the city council and from Scottish Enterprise Tayside, and we currently get European regional development funding. We also get contributions in kind and some funding from the private sector, the university sector and the Scottish Crop Research Institute.

The BioDundee steering group was formed in 1998, when there were five life sciences companies in the city. I am proud to say that there are now 24 core biotech companies and about 4,000 people employed in the sector, which we estimate accounts for about 16 per cent of our local gross domestic product. We feel that we have managed a uniquely successful initiative on a relatively small investment, and we hope that we can continue to contribute. We are keen to promote a Scotland-wide message for biotech, and we believe that our local initiative can add value to that. We offer continuity and consistency, and we believe that we can get better participation because we are based at such a local level.

Jim Reid (Haptogen Ltd): I am a serial entrepreneur and investor in biotech in Scotland. I left Scotland 20 years ago and returned eight years ago, and have since contributed to the development of about 20 life sciences companies here, as an adviser or by putting my money on the line.

I am chief executive of Haptogen Ltd, which I am here to represent. Haptogen is Scotland's largest private drug development company. We have about 30 staff based in Aberdeen—the company is a spin-out from the University of Aberdeen—and we invest about 40 per cent of our income in research and development. We have received very good SMART—small firms merit award for research and technology—support from Scottish Enterprise Grampian, Scottish Enterprise national

and the Executive. We are part of an ITI programme through ITI Techmedia, in which we are collaborating with Axis-Shield. I want to try to contribute something or to give something back to life sciences in Scotland.

Moyna Kennedy (Scottish Enterprise): I am part of Scottish Enterprise's national life sciences team. I have a private sector background. I joined Scottish Enterprise three years ago and have worked closely with the industry and the wider sector to drive forward the life sciences industry strategy, which was launched in February 2005, and to address key issues that are faced.

The Deputy Convener: Most of the witnesses were present during the previous evidence session. I wonder whether any comments that were made during that session resonate with you—in particular, you may want to talk about the difficulties of rolling out the longer-term strategy beyond research and development into the manufacturing sector and the challenges that we face compared with the French and the Germans, for example.

Jim Reid: I would like to pick up on points that I took note of. I will do so in no particular order of priority.

We have just commenced framework 7 work. I agree with what has been said on that. For the vast majority of small and medium-sized enterprises in Scotland, the administrative burden of leading a framework 7 initiative is far too high. We are a very minor player in an 11-member framework 7 programme, but we would like to be a much bigger player and to lead a programme, if we can.

Secondly, I would like to add to what has been said about research and development project investment from outside the UK. As I said, we are investing 40 per cent of our income in research and development. Yesterday, I tried to find out about the grant support that we had received for that investment. Excluding the ITI project, the public sector has supported about 3 per cent of it. In the United States, direct public sector support represents on average more than 20 per cent of research and development companies' investment. I am not complaining about the support that we have received, which has been excellent, but all the support that we receive must at least be matched by our own investment. That does not happen in the US, where there is direct Government support for research and development programmes. That is an important issue.

Mr Wallace mentioned the gap in public sector investment and I agree that there is a gap. Scotland has a huge and globally influential life sciences public sector—I am talking about our academic and research institutions and NHS Scotland. I would like to see them investing much more in corporate research and development. That is how the transition from research and development investment to products and sustainable production will be achieved. I would like to focus on those issues, if that is okay.

The Deputy Convener: We will pick up on those issues in a moment.

George Zajicek: I agree with Jim Reid. When one tries to go public, Scottish firms in general are wary of biotech work. We would not be where we are today without funds from the City of London. There is still resistance to raising venture capital in Scotland.

Dennis Canavan: I have a question for George Zajicek or Jennifer Caswell. I congratulate BioDundee steering group on putting bonnie Dundee on the international map. Your submission refers to a survey conducted by "The Scientist" journal. A survey

"of over 2000 US based scientists recently revealed Dundee is the 3rd most desirable place to work outside North America. The Scientist surveys have also voted Dundee as the no 1 place to work in Europe for the last 2 years in a row."

Has there been any deeper analysis of why those scientists find Dundee such an attractive place? Can you suggest any reasons?

11:45

Jennifer Caswell: Apart from the obvious explanation, which is that Dundee is a lovely place to live and work, we have a lot of scientists: the University of Dundee has stated that scientists from 59 nations now work within the city. Part of the reason is the excellence of the science that is going on within, for example, the University of Dundee. We attract research groups from other countries to come and work in Dundee because such good scientists are living and working in the city and we have that reputation. Thanks to initiatives such as BioDundee, that reputation is now out there in the world and people are aware of it, so they are willing to move to Dundee. It is one of the obvious matters on which we can see success. When we did the first baseline report for the biotech sector in Dundee, the biggest issue that the companies and their research organisations raised was whether we would be able to attract scientists into the city. We have obviously achieved that now.

George Zajicek: As you know, there are some fairly powerful professors at the University of Dundee: David Lane, Roland Wolf and Cuschieri, who are big international names. Of course, there is also the University of St Andrews. The Wellcome Trust has invested in Dundee and the

city now has an international reputation for good-quality science.

Mr Gordon: Mr Reid said that 40 per cent of his company's expenditure goes into R and D. He referred to 3 per cent from the public sector. Is that 3 per cent of the 40 per cent?

Jim Reid: Yes but, for correctness, 40 per cent of our income goes into R and D; it accounts for about half of our expenditure.

Mr Gordon: You referred to the seventh framework programme. Is it your experience that small and medium-sized enterprises are not geared up to deal with the time, overheads and—I presume—the complexity of that programme? Do you have a view about how we can get round that?

Jim Reid: I know that an innovation relay centre initiative is supposed to help companies to put those things together. Our experience is that it was necessary to do it ourselves. One of our people—a very senior person—had to work almost full time on the matter for a month just to get through the legal documentation. Our additional legal fees, on top of the time that we put in, amounted to several thousand pounds. She had to attend several meetings and so on and there was a huge administrative burden. Had we been not so committed and keen as an organisation to be involved in various initiatives such as ITI and framework 7—we collaborate with Korea, the US and parts of Europe—the easy thing would have been to walk away. I fear that that is what is happening in many cases.

It is easier—"easy" would be the wrong word—for academic institutions to allocate the time and resources to do that, because they are much bigger that we are. We must realise that our SME environment here in Scotland is exceptionally stretched and that a major commitment is required for such organisations to put in the necessary time and effort. If an organisation has only 30 staff, one person's being out for a time is a reasonable investment from our side. I do not know what the answer is because, unfortunately, the administrative burden that is placed on us by the EU is, by necessity, very great. I would like to see ways in which more SMEs can participate in the programmes because they bring international linkage and—I have to say—they provide reasonable income for us.

Mr Gordon: I hark back again to the discussion with the previous panel of witnesses—which I think most of you heard—in particular, to the latter part of the discussion when it caught fire, as it were. You will have a good grasp of the issues that exercise the committee's mind in the context of the Lisbon agenda.

How do we raise our game, in terms of R and D, and, in turn, what are the implications for our employment rate? The issue of critical mass has come up. I take it from what you have written to us and from what you have said thus far that you are all doing a good job. Do we, as a nation, have the critical mass in the area in which you are operating? Do you have a view about such issues? I am aware that there is a biotech park in Glasgow, which is run by the University of Glasgow and the Garscube estate. Do you have a view on that? What is it doing, and what relationship does it have with what is going on in Dundee?

The Deputy Convener: It would be interesting to hear the Scottish Enterprise perspective on that.

Moyna Kennedy: Thank you. I would certainly like to contribute, and my colleagues will add to what I say. I was keen to come back to the term "critical mass", which the first panel of witnesses mentioned. One of the key messages that the industry put forward when the industry strategy was launched was about the need to achieve critical mass by 2020.

I use the term "life sciences" rather than "biotechnology", because it is wider. Biotechnology is extremely important, but life sciences is a heterogeneous sector and is similar to what one can see round the globe. It involves biotechnology and pharmaceuticals: the pharmaceutical companies that we have in Scotland are absolutely crucial for the economy because of their impact. We have manufacturing companies primarily, but there is some research and development. There are also companies that specialise in medical devices and diagnostics. We are increasingly seeing a merge between diagnostics, biotechs—they are closely aligned—and pharmaceuticals. We also have some big global players in contract research and there are general supplier and support services. The sector is very wide and heterogeneous, yet it is still relatively small in a global context.

We are—it is a bit of a trite phrase—small but perfectly formed, and there is a really good mix of companies. We have some reasonably good-sized international players, and it is extremely important that we work with them to establish them and anchor them in Scotland. That was another strong message that came from the industry players. How collectively do we ensure that we anchor those large companies in Scotland so that they grow and, in turn, spin out smaller companies? I think that one of the indicators of Scotland's achievement of critical mass in life sciences will be that we routinely see spin-outs from large endogenous companies that are based in Scotland.

When we look at the sectoral or cluster growth of life sciences round the globe—especially in Medicon Valley—we see from what exists elsewhere that we do not have very large pharma R and D companies. For example, Astra and Zeneca merged to become a very large R and D company of the kind that tends to spin out small companies. Scotland does not have that mix as a starting base; it does not have large international pharmas, so we need to be more innovative in our business models in order that we can create new companies.

A balance must be achieved between anchoring our large companies here, to create more companies, and the work that the other witnesses are involved in, along with many others from the academic sector and the national health service in creating more spin-out companies that feed into the SME base, which covers the majority of life science companies in Scotland.

We have a long way to go towards achieving critical mass. The industry strategy is a vision for 2020 that reflects, to some extent, the long lead times in research and development in the life sciences sector. Pharmaceutical R and D for development of a compound to its reaching the marketplace takes about 12 to 15 years. GlaxoSmithKline quotes figures in the region of $600 million to $700 million for getting one product into the marketplace. That is one end of the life sciences sector. The other end would be a simple diagnostic product that might take a year and a half or two years to produce and a few tens of thousands of pounds to get into the marketplace. The returns from sales are not as high for simple diagnostic products as they are for pharmaceutical compounds.

We have a broad range of products and companies on which we can build to create a critical mass. Critical mass is close to our hearts, but it is a long-term aim. The intermediary technology institutes, which have been approved as a 10-year initiative, and in which two panel members are involved, have been a great success story, in part because the investment is for 10 years. They will be major contributors to achieving critical mass in Scotland. I have probably said enough.

Jim Reid: Just to answer the question directly, I say that Scotland is large enough to achieve the aim. Switzerland has the advantage of having two big major pharmaceutical companies. To pick up on George Zajicek's point, companies there also have much better access to capital for risk investment in the biotechnology sector. That is a major issue that we need to consider.

The Deputy Convener: When you say "capital", do you mean public or private sector investment?

Jim Reid: I mean both. In Switzerland, the capital is primarily private. Access to capital is a major problem here. I have just returned from Singapore, where the Government has invested in the Biopolis development in order to attract world-quality scientists and put them in an environment in which they can take technology all the way, with access to capital. We should consider that carefully because it shows that some small nations have the ability. We have several critical world-class advantages, which relate to our world-renowned academic base, but we need to find better and more constructive ways in which to pull that all the way through and achieve sustainability. There is no doubt in my mind that the single biggest issue is about access to early good-value capital.

The Deputy Convener: That is interesting.

Mr Wallace: I am interested in the comparison that Mr Reid made between the United States and Scotland. He said that research and development companies in the United States receive about 20 per cent public sector funding, whereas the figure here is 3 per cent. I have a question for Moyna Kennedy on that. Do we have a problem with state-aid rules? I know that programmes such as R and D plus help to get over some of the restrictions that we are under. Will you elaborate on that?

Moyna Kennedy: R and D plus has been extremely helpful. At least a quarter of the awards have gone to the life sciences sector, so it fares pretty well. The feedback that I have had from industry on the state-aid rules is that they are prohibitive. In the UK, and certainly in Scotland, we tend to be respectful of the limitations and guidelines on state aid, whereas some European colleagues tend to be more flexible in how they utilise such aid.

Jim Reid: R and D plus is a wonderful initiative, but it is for large companies only and not for SMEs. SMEs are burdened by the SMART and support for products under research—SPUR—grant systems, one of which is slightly more favourable for businesses that are starting up and the other of which is more favourable for on-going businesses. However, under both systems, the company has directly to pay a major component—that is the issue that I am raising. The small business innovation research programme in the US can contribute up to $1 million directly for complete coverage of an R and D programme. We should consider such an approach, although I accept that the state-aid rules are a major problem.

Mr Wallace: Mr Zajicek and Mr Reid mentioned their involvement in the ITIs, although I note that they are involved with ITI Techmedia, not ITI Life Sciences.

George Zajicek: If you start on ITI Life Sciences, you know what I am going to say about that.

Mr Wallace: I welcome your observations on the ITIs. It is three years since they were established, although it took a year for them to get up and running. That is a major initiative and considerable resources are going into it, so I would welcome comments on your experience.

George Zajicek: We can certainly give positive feedback on the ITI Techmedia project, but clearly our natural home should be ITI Life Sciences, particularly as it is located next door to us. However, controversially, a large part of its budget was allocated to an American company that is one of our competitors and which has set up in Stirling and taken some of our workforce.

I cannot say too much that is positive about the Life Sciences group because when we have tried to get involved with it, it has not had the resources or the inclination to work with us. We are quite happy to work with ITI Techmedia, but I think that now that John Chiplin has gone, ITI Life Sciences does not have permanent leadership. Although I have nothing positive to say about the Life Sciences group, I believe that the initiative as a whole is bearing fruit, especially the project on which we are working.

12:00

Jim Reid: I have not had the bad experience that George Zajicek has had. At the moment, we do not have a programme with the Life Sciences group, but we continue to talk to it actively. We are interfacing with one of its German partners on another programme, which has been helpful from a number of different standpoints.

Overall, my experience is that the ITIs are an extremely worthwhile initiative. If my experience of the ITI Techmedia people can be replicated with ITI Life Sciences, I would encourage enlargement of the programme because it is contributing at corporate level to the development of world-class science. For me, the major issue is that although we have world-class science in the public sector, we struggle to develop sustainable world-class global businesses at corporate level. The ITIs operate directly at corporate level, which is where we will have our success in the long term.

Moyna Kennedy: Following George Zajicek's comment, I point out that should there be a query, the interim chief executive officer of ITI Life Sciences is Eleanor Mitchell. She has been in that post for a number of months and has worked for the organisation for just over two years.

George Zajicek: It took her six months to respond to one of our projects, despite a great deal of prompting.

In relation to an earlier question, it is not the case that everything is rosy on resources. Drug Development Solutions, which is the company that I am working with in phase 1 clinical trials at Ninewells hospital, will probably have to contract out its data management to an Indian company because the necessary skills base cannot be found here at the right price.

Another big factor with Axis-Shield is its location in the technology park with enterprise zone status. In Dundee, there will be issues to do with space and being able to offer the right package.

Jennifer Caswell: As the sector has grown, the issue has become less about reputation and getting scientists into the area and more about companies outgrowing their premises, with the result that we face property infrastructure problems. The committee will have to forgive me because I do not truly understand all the ins and outs of the situation, but I believe that at our steering group meeting yesterday, one of our private sector members mentioned some of the issues to do with property development in biotech. It is obviously more expensive to build biotech and life sciences premises than it is to build other premises. According to the Treasury's green book, we cannot subsidise rents for life sciences companies, even though that can be done in other European companies. That is a barrier that could create problems in the future.

Over the past 10 years, Dundee City Council and Scottish Enterprise Tayside have invested £11.6 million in infrastructure and it is significant that Dundee Technopole and Dundee Medipark have been built adjacent to where some of the research is taking place. Co-location with the university or the hospital has been an important factor in the inward investment in life sciences in Dundee.

Mr Wallace: Jennifer Caswell has made an important point. I do not know whether Ms Kennedy has the relevant responsibility, but perhaps the committee could write to the minister to clarify whether we are handicapping ourselves unnecessarily in that regard. I am not saying that money would necessarily be available to subsidise the rent of life sciences companies, but it seems that there is a problem if we cannot even get to square 1. Could we clarify that with the Scottish Executive Enterprise, Transport and Lifelong Learning Department?

The Deputy Convener: We will be hearing from Scottish Executive ministers. I realise that they will not have direct responsibility for such matters, but perhaps we could explore the issue with them.

Mr Wallace: It might be an idea to give them advance notice so that they do not say, "We'll have to look into that."

The Deputy Convener: I thank Jennifer Caswell for raising that important issue, which the committee will investigate.

Phil Gallie: When I read your report, I was rather envious. Through Scottish Enterprise, we tried to establish biotechnology in Ayrshire, but unfortunately we have gone into reverse and lost the expertise. Perhaps you have been helped by the centre-of-excellence idea and the fact that you are linked to the universities and the high-quality health service in the Dundee area.

I ask Moyna Kennedy to comment on Mr Reid's point about framework 7. It seems to me that Scottish Enterprise should address that with a one-stop-shop approach. It could assist SMEs, in particular, by harmonising a way forward for framework 7 applications. Have you picked up on that?

Moyna Kennedy: Yes, indeed. Jim Reid alluded to the fact that support is available through an organisation called IRC, which provides support to SMEs on filling in forms and so on. However, the process is still a challenge because it is highly onerous. IRC supports SMEs and helps them to fill in the forms, but because of the length of the forms and the detail that is required, the process is excessively challenging and demanding for small companies.

We could do more, but a considerable amount is already being put in.

Phil Gallie: So the first thing is to simplify the process and then Scottish Enterprise, perhaps, would help.

Mr Zajicek said that there is a degree of outsourcing of data processing because the service is available elsewhere at the right price. Do we have expertise in Scotland that is not utilised simply because it is not available at the right price and other companies in the global community offer the service with a smaller workforce and at a lower cost?

George Zajicek: I am the chairman of the company rather than an executive director, so I do not know the ins and outs, but my understanding is that the internal data management team was stretched and that it was not possible to recruit locally to address the deficiency. Indian contract research companies offer attractive packages in the area of pharmaceutical research. Cost is a big factor, but quality and the availability of expertise were also factors in the decision. I understand that the resource was not readily available in Dundee or the immediate area and that our internal resource was inadequate. The decision was made due to a combination of cost factors and the other company's ability to deliver the whole package of professional data management services to its clients, which are the big pharmaceutical companies.

Phil Gallie: Given that we have high-quality academia in this country and given the money that is pumped in through universities and elsewhere, why can we not provide that expertise?

Jim Reid: We can provide it, but what is needed is the expertise at the right price.

Phil Gallie: So we come back to the point that it must be at the right price.

George Zajicek: Data management is a service function. I would not say that it requires a high level of academic skills, but it is a professional service and we did not find an adequate source of it in our immediate environment.

Moyna Kennedy: It is predicted that the life sciences will grow massively in India and China. There will be growth both in the services that companies offer and in the market for products in those countries. Two or three weeks ago, we had a visitor from India who was promoting India's research capabilities. Historically, India tended to promote commodity-based manufacturing and take it away from the high-value countries in the western world, but it is raising its game in quality-approved R and D. India and China are becoming much more aggressive markets. For example, clinical trials are increasingly being done in those countries, whereas they undertook only a minimal amount of such work 10 years ago. They are raising their game fast. We need to understand them both as competitors and as potential collaborators.

The Deputy Convener: I am aware that cost was previously a major factor in companies deciding to outsource call-centre jobs to other countries, but the quality issues and difficulties that such companies experienced encouraged many of them to return their call centres to the United Kingdom. However, from what Moyna Kennedy has said, it appears that countries such as India and China are upping their game.

Moyna Kennedy: They are. For clinical trials and manufacturing of drugs, certain levels of approval are required from the Food and Drug Administration and they need to be inspected. Those countries are not there yet, but they have the potential to get there and be our competitors.

Jim Reid: This leads on nicely from the deputy convener's point. I think that we are going through the first cycle of the process at the moment, but the cycle could come back to us. It is too early to say, but China and India have undoubtedly upped their game. Certainly, India has a number of big

pharmas that are globally active. However, time will tell.

My second point is that we need to focus on the commercialisation of intellectual property. IP is our key sustainable advantage because 50 per cent of a western country's wealth comes from the commercialisation of IP. That is why the academic base, from which so much IP emerges, becomes the driver. However, we should not forget that IP that is created within companies has a direct commercialisation mechanism and does not need to be brought out from the universities. That is why we should fund corporate R and D, where the infrastructure already exists to commercialise IP.

Phil Gallie: On a slightly related point, Mr Reid said that 40 per cent of his company's income is reinvested in R and D, but I suspect that he is fairly unique in Scotland in achieving such a high figure. What long-term return does Mr Reid think that he and the company that he runs will receive from that investment?

Jim Reid: First, many bioscience companies in Scotland do not have any income. That brings us back to the need for capital. We are quite unusual, in as much as we set out to run a business from day one, we have income and we invest heavily in R and D. Going forward, I think that it is probably unsustainable for us to reinvest 40 per cent of our income in R and D. Sooner or later, we will need to turn a profit. At this time, we aim for a zero profit line because everything that we make is reinvested. That will continue for a number of years but, sooner or later, we will need to turn a profit.

We are developing a global drug development company that is headquartered in Scotland. We want to provide high value to our shareholders and quality employment. Our average salary is currently £34,000 per annum. That places us about £4,000 per annum above the average here and way above the averages in other sectors. We want that type of good-quality, sustainable, long-term—and global—employment. Like George Zajicek's company, we employ people from Russia, China, India, Korea, the US and Switzerland. About half our employees are from the UK, of whom about half are Scottish. We want to continue to grow by attracting outside talent and by providing a base for Scottish people to work.

Mr Gordon: Is yours a listed company?

Jim Reid: No.

Mr Gordon: Presumably, such a philosophy would be difficult to sustain if the company was listed, given the pressures from shareholders, who tend to take a rather more short-term view.

Jim Reid: Do not think that I have no pressure from shareholders. However, you are right that I have a slightly easier situation in our environment. We have looked at listing but—to pick up on the point that George Zajicek made—accessing capital markets in London does not make life very easy if you live in Aberdeen. We have all experienced the red-eye scenario. The more we can do to provide such things indigenously, the better the situation will be. However, I take your point entirely.

George Zajicek: Once you make a profit, you will need to pay a dividend anyway.

12:15

The Deputy Convener: The BioDundee submission states:

> "Life science generally employs more women than other industries and BioDundee has ensured that women working in the sector here have been given a high profile locally and nationally and internationally through our activities."

It occurs to me that part of the Lisbon agenda is to encourage older workers and women back into the workforce. What has been your experience in that regard?

Jennifer Caswell: We cannot take any credit for the fact that life science employs more women than other sectors do; that just happens to be the case. I find it refreshing that when I go to meetings about life sciences I am not in a room full of suited men.

Jim Reid: We are not complaining.

Jennifer Caswell: In the university sector, women professors are doing international work. We receive European funding and we see it as part of our role to promote the opportunities that those women are developing.

The Deputy Convener: That is good to hear.

George Zajicek: We certainly employ more women than men, but it has been noted that senior management is pretty bereft of the female of the species.

Jim Reid: More than 50 per cent of our employees are women, as are half our board members.

The Deputy Convener: So we are working on it.

Mr Gordon: That might change if you try to list your company.

The Deputy Convener: I thank our panel of witnesses for their informative evidence. We appreciate the time that you have taken to come along today and your written submissions, which will inform our deliberations.

European Commission Work Programme 2006

12:17

The Deputy Convener: We move on to our next agenda item—goodness, it is only item 2. We are considering our regular paper on the European Commission's work programme. I invite comments from members.

Mr Gordon: It is clear that the public procurement contracts will have major implications for the efficient government programme. Do we have any more information on that?

Jim Johnston (Clerk): The information in the paper is from the update that the European officer provided. The issue is on-going and we will continue to monitor what is happening.

The Deputy Convener: I note that the Commission is not likely to propose any legislation until the second half of 2007, but the earlier we know about these things, the better. Perhaps we could ask our European officer to keep a close watch on the issue and keep us updated on further developments. I am sure that Mr Gallie wants to raise an issue.

Phil Gallie: What we have with respect to public-private partnerships is a total shambles, which has been made worse by European legislation. Rather than having more legislation, we want the existing legislation to be revisited or got rid of. There is too much involvement in all internal market activities. The next item in the paper is postal services, where there is an element of European interference, which could well affect the universal provision of postal services, which no one on the committee would want to happen.

Mr Gordon: Do you not support privatisation of the postal service?

Phil Gallie: I am quite happy with privatisation, but there have to be safeguards to protect national interests with respect to universal provision. There is public involvement to some degree in Holland. The issue has to be addressed. We do not need more complicated legislation that will confuse us further.

The Deputy Convener: I have taken careful note of your points, Mr Gallie.

Dennis Canavan: I see that a directive on the internal market for postal services is expected this month. Has it been published yet?

Jim Johnston: Not yet.

Dennis Canavan: We ought to keep an eye on that and perhaps follow it up, because it has obvious implications for the post office network.

The Deputy Convener: Members will be aware—and, as one of the founder members of the committee, Dennis Canavan more than most—that the committee has kept a close eye on the development of the postal services directive. My understanding is that it has been through several phases and that it is now in the last phase. The committee has always said that it wants to keep a watching brief on the directive because of the implications for rural Scotland. I am happy for the committee to continue to do that if members agree.

Members *indicated agreement*.

The Deputy Convener: This month, the Committee of the Regions approved an opinion on the globalisation adjustment fund. There were 19 amendments and I think that members would generally be in favour of the spirit of the amendments that the Committee of the Regions accepted, which lowered the threshold for intervention from 1,000 to 500 redundancies. If the threshold were to stay at 1,000 redundancies, which would have a major effect on local economies and local economic development in Scotland, we would not qualify for any of the money. The committee should welcome the recommendation of the Committee of the Regions.

Phil Gallie: Why is it not welcomed by the UK Government, which wanted the threshold to be at 2,000?

The Deputy Convener: You would have to address that question to UK ministers. I was pleased to accept the amendment that set the threshold at 500 workers.

Phil Gallie: Given the importance of the fund to rural Scotland, as the deputy convener emphasised, why do we not question the UK Government and point out to it the difficulties that Scotland could face?

The Deputy Convener: With the committee's agreement, I would be happy to write to ministers about that. I anticipate that they would say that we are in the first year of the fund and that if they were to place the threshold too low, too many people could qualify and the budget would not be large enough. My report recommended that we double the budget on the basis that it would be funded from underspend from the structural funds. That would be a valid way to finance the upskilling of redundant workers.

Phil Gallie: I understand your suggestion that a cautious approach is being taken at the beginning of the fund and it is fair enough if that is the reason. However, the threshold puts down a

marker on Scotland's interests for which the committee should take more responsibility.

The Deputy Convener: I am happy to write to UK ministers on behalf of the committee if members agree.

Members *indicated agreement*.

Phil Gallie: I congratulate John Purvis on his excellent efforts.

The Deputy Convener: That is noted.

Phil Gallie: When we visited Brussels earlier this year, we heard much about joint European support for sustainable investment in city areas and joint European resources for micro to medium enterprises, both of which initiatives are likely to be introduced in the not-too-distant future. I would like to ask the Scottish Executive whether it is ready to get involved with JESSICA and JEREMIE. Is it prepared for their imminent acceptance?

The Deputy Convener: I note that the Executive has been asked to outline whether an operation similar to the analysis that the Small Business Service is doing in England is being undertaken in Scotland. We could write to the Executive for further information on that matter.

Phil Gallie: I would like that.

Pre and Post-council Scrutiny

12:24

The Deputy Convener: Item 3 is pre and post-council analysis and scrutiny. I note from the clerk's paper that we have a couple of late papers. One is a pre-council agenda for the economic and financial affairs council meeting of 7 November and the other is a post-council report on the competitiveness council meeting of 25 September. If members agree, it would be worth while to check with the Executive why the competitiveness council report was so late. Do members wish to raise points on pre and post-council scrutiny?

Phil Gallie: We have two papers on agriculture and fisheries council meetings. Why do they not refer to renegotiation of the common agricultural policy? That was a condition that Mr Blair imposed when he sold out—I mean, when he gave up part of our budget rebate some time ago, although I like the phrase "sold out" better. Why has no move been made to renegotiate the CAP, as promised?

The Deputy Convener: I note that the post-council agenda says:

"No fisheries items were discussed."

However, the pre-council agenda for the meeting that will take place this week says:

"The Scottish Executive will be negotiating for settlement".

Phil Gallie: I am sorry—you are talking about fisheries, but I was talking about the common agricultural policy.

The Deputy Convener: I thought that you referred to fisheries. I guess that we could write to ask the UK Government about that. The agriculture and fisheries council meeting will take place today and tomorrow.

Phil Gallie: It would be nice to see CAP renegotiation on the next agenda.

The Deputy Convener: I have no doubt that we will receive a post-council report on the meeting. Do you want to wait for that report and to take up the issue after that if you are unhappy?

Phil Gallie: From what I can see in the pre-council agenda, I do not think that CAP renegotiation will be discussed. I would like to see it on the next pre-council agenda. I acknowledge that that is beyond the Scottish Parliament's remit, but the subject is important to people in Scotland, given the implications for our budget commitments. We should all consider that.

The Deputy Convener: Do I detect a Conservative party debate coming up in the chamber on the common agricultural policy? That

might be one way of addressing the question. What we do is in the hands of the committee.

Phil Gallie: I do not know whether committee members feel that to ask about CAP renegotiation would be premature or unfair.

Mr Gordon: I am sorry, but I am hacked off because you have made me late for the Labour group meeting, so I will not support you.

The Deputy Convener: I feel that asking about the issue would be a wee bit premature, but I am happy to look carefully at the post-council agenda to see what happens.

Phil Gallie: All right. I would hate to make Charlie Gordon late for the Labour group meeting.

Sift

12:28

The Deputy Convener: The last agenda item is our regular sift. Are members happy to refer the paper to the committees that are listed?

Phil Gallie: I am feart to say anything.

Mr Gordon: That is the first time that you have accepted the Labour whip.

The Deputy Convener: I take it that the document is agreed.

Meeting closed at 12:28.

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