

The Select Committee on the European Union

Internal Market Sub-Committee

Corrected oral evidence: Brexit: Future Trade between the UK and the EU

Thursday 20 October 2016

11.15 am

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Members present: Lord Whitty (The Chairman); Lord Aberdare; Baroness Donaghy; Lord Green of Hurstpierpoint; Lord Liddle; Lord Mawson; Baroness Noakes; Baroness Randerson; Lord Rees of Ludlow; and Lord Wei.

Evidence Session No. 2

Heard in Public

Questions 10 - 19

Witnesses

I: Dr Jo Twist, CEO, UK Interactive Entertainment; Matthew Evans, CEO, Broadband Stakeholder Group; Antony Walker, Deputy CEO, techUK.

Examination of witnesses

Dr Jo Twist, Matthew Evans and Antony Walker.

The Chairman: I am sorry that we are running slightly behind. It may be useful if you quickly introduced yourselves, for the benefit of the Committee.

Matthew Evans: I am Matthew Evans and I run the Broadband Stakeholder Group.

Dr Jo Twist: My name is Dr Jo Twist and I am the CEO of UK Interactive Entertainment.

Antony Walker: I am Antony Walker. I am Deputy CEO of techUK.

Q10 **The Chairman:** Thank you very much. We are covering a range of

technologically-based services here. Could I ask, particularly Mr Walker and Dr Twist, about the digital sector as a whole? What are the impacts of Brexit on your sectors? To what extent are trade policy and tariffs issues, given the interaction between services and goods—in, for example, the games area? Does the recent information technology agreement struck at the WTO, which, as I understand it, is attempting to eliminate tariffs on 200 IT products, change the benefits of being inside the EU single market, or in any way complicate or make easier a transition to an external situation of the EU?

On non-tariff barriers, could you point out the ones that concern your sectors specifically? Perhaps I can ask Dr Twist to kick off.

Dr Jo Twist: Thank you very much for giving us the opportunity to give evidence. The games industry is a globally recognised, highly successful sector and a key driver of the creative industries and the digital sector. Globally we will be worth about \$100 billion by next year, and we have a very strong consumer market. We, as the UK, are the sixth largest global consumer market, and the second in Europe. Consumer spend for games is over £4 billion. We have billions playing across the world, and one of the biggest home-made franchises, “Grand Theft Auto”, is still the fastest, biggest-selling entertainment product of all time globally. However, the size and nature of the games industry, as a digital industry, is not effectively measured or reflected in existing statistics. I think it is an important starting point for the conversation as we look into the future.

We know that the current system to understand exports in a digital economy and a digital world is based on standard industrial classification codes. These are not fit for purpose as we move into a digital economy and a digital age. They do not reflect the true size of our industry, as DCMS and ONS fully recognise. We took a big-data approach with Nesta recently to try to solve this and launched the UK games map, which identified over 2,000 games businesses active across the UK from Dundee to Cornwall. There is a great opportunity here. However, most of their exports in games that they are producing in a digital world are not reflected or counted. This is a problem.

That is an overview. We can go into the particular issues, but I would just say that we have a lot of detail on these sets of questions. For the games industry, we are concerned primarily about non-tariff-based trade barriers. You cannot have the trade, creative industries, innovative digital industries and economy that we have without people. Those highly skilled people and the diversity of the workforce are what fuel our innovation and our creativity across the digital economy.

Secondly, one of the other major non-tariff-based trade barriers that we foresee relates to the free flow of data, and I know that Antony will probably have equal amounts to say about that. We can go into more detail, but those are the two primary issues relating to non-tariff-based barriers. We welcome the ITA’s exemption on physical goods such as disks, consoles and game cards. However, the physical goods and

physical games market although still strong represents only around £1 billion in consumer spend compared to £2 billion in consumer spend on digital games and mobile games.

The Chairman: We may come back to more details on non-tariff barriers later. Mr Walker.

Antony Walker: It is a huge question. To understand the potential impact it is important to try to understand more about the digital sector and the wider UK digital economy. In May this year, Ernst & Young ran a global survey of technology leaders from around the world, and they asked a number of questions. One of the questions they asked was which place was most likely to give birth to the next internet giant, the next Google or the next Facebook. The consensus view across those CEOs was that after California the UK was the place most likely to generate that next big global tech player. That really illustrates the point that the UK is a world-leading digital economy.

The digital tech sector accounts for about 10% of GDP, as best we understand it from the data, which is the largest proportion of any advanced economy. The UK has an incredibly rich ecosystem of established technology players and emerging new companies and new sectors. Turnover in the sector grew 32% faster than the rest of the economy in the first half of this decade. The sector employs about 1.5 million people, and that is widely dispersed across the UK. It has a concentration in the south-east of England, but over recent years we have seen a further dispersal across cities in other parts of the UK.

The UK tech sector has the highest level of productivity of any of the UK sectors. After the tech sector, there are also very high levels of productivity in other sectors that become most digitised. Having said all that it is worth pointing out that Sir Charles Bean, in his recent report on UK economic statistics, made the very clear point that we are probably massively underreporting the size and scale of the UK tech sector in our official data. The press release from his report said, "if the digital economy was fully captured by official statistics, it could add between one-third and two-thirds of a percent to the growth rate of the UK economy". That is really significant: "the growth rate of the UK economy". The sector is big, and probably bigger than we think it is. It is about the future, because the technology sector is the agent of change in a modern, global, digital economy, and we are really good at this stuff.

To put all that into context, what does Brexit mean and what does it mean to withdraw from the European Union? The conversation with the previous witnesses focused very much on the services directive and so on, a specific instrument to support the trade in services. First of all, most of these digital products are services; they are digital goods and digital services. It is important to recognise that the single market and the whole *acquis* that sits within the single market pillar is a mechanism to reduce non-tariff barriers to trade across the EU Member States. When you are thinking about the trade in services you have to think about the totality of European law that applies to the single market. The single

market was designed to do two things: to remove non-tariff barriers and to drive harmonisation. Harmonisation is incredibly important for the technology sector, because tech and digital is all about scale. The economics of digital absolutely play to scale. A big, harmonised market with non-tariff barriers to trade is a very positive thing for what is, what should be and what we hope will remain a major engine for the UK economy going forward.

Dr Jo Twist: Can I build on Antony's point about the single market? For us, we have a difficulty in determining what it means now in a modern, 21st century economy to trade in a single market, particularly in relation to digital software, online services and games that are sold through platforms such as Apple Store and Steam. These are very often based outside the UK as platforms, as shop fronts, and sometimes outside the EU, so where exactly the single market is and where that fits when we are talking about these issues is a key question for us.

The Chairman: That is a very good point. This is a bit facetious, but which country has a bigger consumer market in gaming in the EU? You said that Britain was the second-largest consumer market for gaming. I had assumed that we were by far the largest.

Dr Jo Twist: Globally, US and China are very significant.

The Chairman: Within the EU?

Dr Jo Twist: Within the EU it is Germany.

The Chairman: Really?

Dr Jo Twist: The Germans very much like their PC games.

The Chairman: That is interesting to know.

Dr Jo Twist: As for value per consumer, Brits spend more time playing games and they spend more money.

The Chairman: I think we all have examples of that. We will stay on the issue of differential regulation. Lord Mawson.

Q11 **Lord Mawson:** The Digital Single Market strategy, which the Government promoted, seeks to reduce the non-tariff barriers to trade that arise as a result of regulatory fragmentation, and create a market of over 500 million consumers for digital businesses to grow their operations in. While leaving both the EU and the EEA would give the UK greater sovereignty over policy, diverging from EU rules could increase some of the non-tariff barriers to trade in services that the Digital Single Market strategy was supposed to reduce. To what extent is this the case? Are there some policy areas in which we can change policy and ignore EU rules without adverse consequence for business, but others in which we must align ourselves with the single market?

Antony Walker: That is an extremely good question. As I said, the single market, and the Digital Single Market in particular, is very focused

on trying to reduce barriers to cross-border trade across the EU. Right now a very large Digital Single Market package is being debated and discussed at European level, which could be very beneficial to the UK if it harmonises the market and makes that market more accessible. Given all the strengths the UK has as a digital economy, Europe should be a very good export opportunity for the UK. However, it is also possible that as that body of legislation is developed and approved at a European level, opportunities could be taken to make that market less accessible to UK firms once the UK exits the European Union.

From that perspective, one of the things we are very concerned about is that the UK, while it is still a member of the European Union, continues to play a very active and influential role in trying to set out that DSM package. The risk of not doing so is that you end up with a whole set of issues that could be very problematic when trying to negotiate some kind of alternative arrangement, whether it is an associate agreement or some kind of free trade agreement. Generally we think that the DSM is a good thing. We wanted to see the UK driving the direction of the DSM, and I know of tech companies across Europe that are concerned that the UK will have less influence, because they saw the UK influence as very positive in driving that agenda. We need to be very careful that the DSM cannot be used against the interests of UK-based companies in the future.

Matthew Evans: First, thank you for inviting me to give evidence here. The issue of divergence is particularly relevant to the telecoms sector, because the European Commission is currently consulting on proposals for the European Electronic Communications Code, which is the reform package for what is currently known as the European regulatory framework for electronic communications. That has the potential to significantly alter the rules that have allowed UK-based telecoms operators to export to the EU, particularly on open market access, which has been the main facilitator for the trade of electronic services into the EU. We would echo Antony's point that that is a key area for the UK and that the Government have to play a guiding role as much as they can over the next two years, because that would likely come into force across EU Member States mid to end of 2019. Telecoms is likely to be one of the first guinea pigs for whether we choose to follow the changes that Europe is making to its rules, or whether we stick with our current framework, which has, to be fair, generally served the UK quite well in delivering on competition and investment and facilitating the wider digital sector.

Q12 **Baroness Noakes:** Before I ask my question, can I note for the record that as recorded in the register of interests, I am deputy chairman of Ofcom.

Mr Walker, you talked about some of the things that could act against the interests of the UK. What, in particular, are you thinking of there?

Antony Walker: There are two different examples at different ends of the spectrum, I think. An obvious one is in areas such as conformity assessment: the rules and regulations and standards that apply to things

like health, safety and environmental standards, and so on. Here there is a risk of divergence happening naturally over time. If, under the reform Bill, the whole existing *acquis* of European law is transferred into UK law, that is fine, but from the day after that happens the process of European law-making continues, and in areas such as standards, health and safety and the environment, changes happen quite regularly, so there is a risk that over time product standards diverge in the UK from European standards. That is not something that anybody in the sector wants to see, because, as I said, the sector plays to economies of scale and it wants to stay very strongly harmonised. On that one it is the mechanical point that we need to stay linked to the evolution of European standards over time.

At the other end of the spectrum is data protection or, probably more pertinent right now, the debate around the free flow of data, which is being debated at a European level, which could set out, determine and require certain data to be hosted within the European Union. It would mean, therefore, that certain services could not be made available to the rest of the European market from here in the UK. That is one where you could, if you wanted to, attract digital businesses away from the UK and require them to locate elsewhere in the European Union. That would be a mechanism by which you could achieve that.

Baroness Noakes: Do you see them not specific to the Digital Single Market? This is a generic point about the UK being engaged in EU law-making.

Antony Walker: Yes, but it just happens that those are all parts of the Digital Single Market package that is being debated at the moment.

Dr Jo Twist: I would like to echo that. Our pro-business approach within the European Union negotiations, particularly around the Digital Single Market, was very welcomed and extremely important. Losing that voice or that negotiating position around the table could be damaging. Particularly around data protection, we need to ensure that we are balancing the consumer protection rights of citizens with the needs of growing and innovative businesses. The free flow of data is going to be increasingly important to every sector, not just the digital sectors we represent. I quote Mr Ansip: "Data has to be able to move freely across national borders. If it does not, the growth potential of our digital economy will be limited. That will affect business and industry as much as it will consumers who have so much to gain from digitisation". This is an absolutely critical point for us, and that is an example of a potential non-tariff trade barrier on data localisation and the enforced handing over of a source code if you want access to certain markets if you are outside the EU.

The Chairman: We will now move on to focus a bit more on telecoms. Baroness Donaghy.

Q13 **Baroness Donaghy:** I think my question is directed mainly to Mr Evans and Mr Walker, but that does not stop Dr Twist from coming in. As we know, there are mixed views about the impact of Brexit for the telecoms

sector. The Economist Intelligence Unit has previously suggested that the sector itself may not be as affected by a Brexit scenario as other industries, because consumers engage with operators at a national level, and the Broadband Stakeholder Group's evidence to this Committee appears to agree with that. However, communications providers that we have engaged with have some concerns. One telecoms company recently told the Committee in a private session that the single market for telecommunications has been a success, had enabled it to access and rent communications infrastructure from other EU-based businesses, had opened up European procurement markets, outlawed discrimination against EU companies and provided a mechanism through which it could complain about discrimination, and that it earned over £1 billion from trade with the EU. With that background, my questions would be: what does the £8 billion, which is £3.8 billion exports and £3.8 billion imports, of UK-EU trade in telecommunications actually consist of; and what exactly does the EU offer telecoms providers in enhanced market access, reduced non-tariff barriers and other commercial advantages relative to third-country WTO status? Are the concerns we have heard legitimate?

Matthew Evans: To pick up on a couple of the issues that you raise there, as our written evidence suggested, Brexit itself, in whatever form that comes, is unlikely to have a huge impact on the functional working of the sector, given, as you said, that consumers tend to engage with operators within their home countries. However, I should also say that the benefit that the UK market has delivered is competition, which has led to substantial levels of investment at flat to falling consumer prices, which is quite a long way of saying that there is not much fat within the telco sector. The trade, which is more substantial for some companies than for others, is a very important part of their revenue stream.

The £3.8 billion exports versus imports, in the services that it tends to provide, is focused on business connectivity—the supply of leased lines, which is where they have access to an incumbent operator predominantly to allow them to offer a leased line, which is a dedicated broadband connection, through to providing mobile connectivity, virtual private networks, cloud solutions and a whole array of communication services and solutions bundled up in those exports. What facilitates that is the current harmonised framework that we have at the EU level. That is currently, as I referred to, the framework that is soon to be the European Electronic Communications Code. That has allowed UK operators to access the physical network often of EU-based operators to provide the connectivity solutions. It has a hugely beneficial impact on UK companies exporting abroad, as well as providing benefit to UK consumers of course.

Antony Walker: It is worth noting from the impact already of Brexit that we export services, but we import a lot of hardware to support them, and that hardware is priced in dollars and sourced globally, so the import costs in the sector have risen significantly due to sterling's decline. When you think about ambitions to drive up fibre investment in 5G and so on across the UK, those investment costs are all impacted by those currency changes.

The Chairman: Thank you very much.

Q14 Lord Green of Hurstpierpoint: That eases us seamlessly into the question of roaming charges. The EU has of course finally abolished roaming charges, I think with effect from spring next year. The question is: if the outcome of the negotiations was not to trade with the EU on the basis of EEA membership, can UK citizens and businesses expect to remain a beneficiary of the roaming charges? It has been suggested to us that the implications in mobile connectivity are rather different from those for fixed-line operators and that it is even possible that the cost of providing intermarket mobile services, whether voice or data, could actually rise. Should this be seen as a priority objective for the UK Government to continue to be on the inside of any roaming charges arrangements?

Matthew Evans: I will split that into two parts. First, if we were outside the EEA, on the question of whether the UK would be able to participate in some way in the connected continent regulation, which brings into effect the decrease in wholesale roaming caps, I would have to say that I suspect not. It does, of course, depend on what our new relationship is with the EU. Certainly, Switzerland is not covered by the connected continent regulation, despite having numerous bilateral agreements around telecoms.

However, that does not mean that UK consumers would definitively be unable to benefit from using their mobile devices as they do at home and being comfortable with the fact that they will not face any bill shock when they return to the UK. That is because the regulation has brought down the maximum regulated wholesale roaming charge. In effect, that is the cost that you can charge another operator that is not from your home nation. An example would be an EE customer going to Spain and the Spanish operator charging EE for the cost of the data and calls that are made while the consumer is abroad. That could be driven by competitive negotiations to ensure that the wholesale costs from EU Member State operators remain low and in line with the regulation. We have seen that UK operators are determined to offer, and prior to the enforcement of this regulation were offering, packages that allowed you to roam abroad in the comfort either that it would be in line with your domestic caps on data and prices or that it would be very similar. I think that UK operators on the whole, particularly because UK consumers will see the benefits and then potentially see them withdrawn, are quite keen, for competitive reasons, to continue to provide their service, but it does depend to some extent on the willingness of EU operators to continue to keep their wholesale costs in line with ours, which are relatively quite low.

Lord Green of Hurstpierpoint: That gives rise to a couple of questions. I could interpret your remarks as meaning that it would not rise in real terms at least from where it now is, or that they will not rise from the zero that they will get to in the spring of next year.

Matthew Evans: I meant that they will not rise from the zero that they will get to next year.

Lord Green of Hurstpierpoint: So a British traveller, whether on business or as a tourist, could still benefit from the absence of roaming costs because of the deals done by the operators in this country with the local providers in the various countries?

Matthew Evans: Potentially, yes. It does depend on whether EU operators would continue in effect to offer UK-based operators the same level of wholesale roaming charges. If they continue to do so, I see no reason for UK operators to increase from zero the price of roaming.

Lord Green of Hurstpierpoint: I am not clear about whether they have the right within the new EU framework to raise their charges to a non-EU provider from the UK.

Matthew Evans: As far as I am aware, and I will come back to the Committee to confirm, they do have the right—

Lord Green of Hurstpierpoint: To?

Matthew Evans: —to raise their charges to a non-EU consumer visiting the EU.

Lord Green of Hurstpierpoint: In which case, the question is: well, why would they not?

Matthew Evans: They could, and there is an asymmetry here; UK consumers tend to go to the south of Europe for prolonged periods, for two weeks, where they have time on their hands and use more data generally than when European visitors come to the UK, so there is an asymmetry that may incentivise them to do it.

Lord Green of Hurstpierpoint: A fortiori.

The Chairman: In this whole field, there are some problems with data. I will ask Baroness Noakes to ask the next question.

Q15 **Baroness Noakes:** This is really a sweep-up question, because we covered some of the aspects of statistics earlier when Dr Twist in particular talked about the inadequacies of current statistics, of which we are aware—and we are asking the ONS to do some work for us on statistics. However, we will put that on one side and try to sweep up what services we should be focusing on and what the most important forms of trade in those services are, so that when we get our answer on statistics we have a reference point against which to judge that. The question is: what should we look for in the digital and telecoms sectors, and what sorts of trade should there be in those services?

Antony Walker: This is a difficult question to answer. This is where the data lets us down, because it is hard to categorise the sector, never mind the outputs of the sector. Another point that complicates this a bit is that, in this process of digitisation that we are going through on a global level, we are also seeing the phenomenon of a servicisation—I hate that word, but it accurately describes it—of products. A car used to a mechanical

product with an engine, body and four wheels that was produced at the end of a manufacturing line and then sold, whereas now a car has a huge amount of computing capability and we are in the process now of connecting that computing power to networks, which is changing the nature of that product. It is going from being a product to something that looks more like a service that requires data to flow on a real-time basis. The internet of things is about the servicisation of products—everything from machinery to household appliances. In the digital sector, pretty much everything is becoming a service, so in the absence of really good data that breaks down exactly what the components of trade are today, I would assume that most of the output of the sector, in one way or another, will have a major services element. Things such as the free flow of data and the application of data protection rules become fundamental to enabling those services to flow across border.

Dr Jo Twist: Likewise with games. We are trying to fit games into quite old boxes now, and out of the 2,000 companies only 41% were counted in the right SIC codes. You can have small teams of five, 10 or 30 people, and you can have large teams of 400 people working across the world on a game for four years, for six months, for any given amount of time, depending on the platform. You can stream games, you can download games, you can have a free-to-play game on a mobile phone and pay for micro-transactions. There is a multitude, but essentially they are products in a digital world that have been created by people and rely on the free flow of data. Data, in how the games industry relies on it, is about giving the consumer a service that is constantly improving and constantly giving them even more value for money, so data, in how the games industry uses it, is very innovative, and it drives our ability to serve the customer and consumer best.

Baroness Noakes: It will be very difficult to get that measured.

Dr Jo Twist: Yes.

Antony Walker: Hence why the Charlie Bean review was so important. It was something we had been saying for the last 10 years. We know a lot more about jam production in the UK than we do about our digital services.

The Chairman: The free flow of data is also covered by Lord Aberdare's question.

Q16 **Lord Aberdare:** We come on to one of the issues that Dr Twist in particular mentioned as one of the crucial things: namely, cross-border data flows. What might happen if the UK does leave the EEA? What effect might that have on data flows between the UK and the EU? How would that impact the businesses in your sectors, and how important is it that in any deal we secure something along the lines of the data passporting, which techUK has been proposing as a way of addressing this?

Antony Walker: This is a complicated area. If data needs to flow across a border, in effect it needs a legal basis, because it is subject to various

rules and regulations, in particular rules on data protection, privacy and so on. There was an excellent case study of the challenges here in relation to safe harbour in the US. The legal basis for the data passports that enable data to flow from Europe to the US was built around this concept of safe harbour, which said essentially that the protections afforded in the US were equivalent to the protections required of EU citizens' data in Europe, so there was a safe mechanism by which that data could flow. That safe harbour agreement was challenged and found to be inadequate, which meant that there was no clarity on what the right legal basis could be for data to flow between the two jurisdictions. It was a very anxious time across the sector, with our legislators and policymakers scrabbling to find a solution on both sides of the Atlantic to do that, which led to the privacy shield agreement between Europe and the US.

Because this happened quite recently, it immediately came to the mind of the technology sector post the referendum that something similar would probably be required between the UK and the European Union in the case where the UK is outside the EEA and the single market. The challenge here, and perhaps one of the subtleties that was less understood in the whole referendum debate, is that when you are a member of the European Union and the single market, the European Court of Justice has no jurisdiction over security matters, and Member States are able to set out their security arrangements as they see fit and appropriate. However, when you are outside the European Union, the European Court of Justice has to take account of the adequacy of any data protection requirements. Given that this is just at the moment when the UK has avowed all its various surveillance powers through the Investigatory Powers Bill, it actually means that we have more regulations on statute than virtually any other country. This means that the UK could be open to challenge by European privacy campaigners and a case brought to the European Court of Justice, which could have real implications.

We need to find a solution to that, because if we do not have adequacy arrangements, some kind of data passport, there is a real danger that data cannot flow cross-border from the UK into the EU, which means that services cannot flow, which would not be a desirable outcome for anybody. That has to be a really central issue within the whole process of negotiations.

Dr Jo Twist: We absolutely support the proposal on data passporting that techUK has put forward and agree that it is quite urgent that we get an adequacy declaration from the European Union. Data is the lifeblood of every sector, not just the digital economy, and will continue to be so. Small companies in particular have the potential to grow, to scale and potentially to create the next big whatever it is, and we do not want to damage our global competitiveness and our standing, which the UK has at the moment, in the digital economy.

If the UK leaves the EEA, we will have no existing agreement with the EU that allows businesses with operations in the UK to transfer EU citizens'

data to and from the UK. As I mentioned, data is absolutely critical to the services and the games that we are now creating and giving to consumers at a click of a button across the world.

Switzerland, Canada and Israel are examples of non-EU countries that have declarations from the EU that it provides adequate data protection standards, and Norway obviously has free-flow-of-data protections due to being a member of the EEA.

The Chairman: So there is no requirement for the providers of the service to be based in the EU if there is a deal on equivalence?

Dr Jo Twist: No, if they are part of the EEA or have a declaration from the EU that their data protection is adequate.

The Chairman: We can move on to another dimension, which is the movement of people.

Q17 **Lord Rees of Ludlow:** You said in your written evidence that access to skills is a priority, but of course if we go for a hard Brexit there will be curbs on free movement as well as reduced market access and increased non-tariff barriers for UK businesses. To what extent do you think that in that scenario the downsides could be reduced by a reformed visa system that could deliver similar results to the present arrangements for skilled people, and how much bearing do you think this will have on London's ability to remain the European capital for digital tech and start-ups in particular?

Dr Jo Twist: This is a number one issue and concern. As I mentioned, we cannot have any trade or trade deals unless we have the people to fuel the companies that are making the products or services, whatever you want to call them, in the future. We cannot have innovative, creative, globally successful and competitive products and services unless we have a diversity of people, meaning a diversity in global perspectives and diversity in the people making those products.

We surveyed our sector, and 74% of our respondents in the games sector employ non-UK EU nationals to fill high-skilled posts. We know that between 20% and 30% of their workforces are made up of non-UK EU. They also have global talent. We are absolutely working with the Government, and we led the Next Gen Skills campaign to get computer science on to the school curriculum. We now push forward esteemed skills so that we have that real pipeline of talent coming through our system that is home-grown. We also need to fill the gap in the short term as that is a long-term strategy. However, it is not just about high-skilled jobs but about diversity as a whole. It is about people who are graduates in programming degrees, where we are not keeping up with the demand side in this country yet, but it is those people who have experience in business skills and how to lead innovation and innovative, creative companies. It is a number one concern of the industry.

Our industry is very highly mobile in the sense that they could up sticks and just go to Berlin, which is a real concern, and even though we are

working very closely to identify the opportunities post the referendum, the companies are nervous and the existing EU nationals do not feel welcome, which is going to damage our creativity, our innovation and our economic success.

Lord Rees of Ludlow: You are saying the same as the university sector is saying, of course.

Dr Jo Twist: Absolutely.

Lord Rees of Ludlow: Do you think that some sort of special visa deal for highly skilled people could actually deal with the problem?

Dr Jo Twist: The fact of the matter is that, for highly skilled people, where 20% to 30% of staff are made up of non-UK EU at the moment, that is obviously going to add an administrative and costly barrier to scale, particularly to small companies that are crying out for this, and they need those people to scale. Regardless of any kind of visa system, whatever it is it has to be friction-free, it has to be cheap and it has to be quick. We are talking about really fast-moving companies that will be disadvantaged competitively globally.

Antony Walker: If you want to be a global hub for tech, you have to be a global hub for tech talent. Talent is fundamental. It is one of the reasons why salaries and remuneration are very high in the sector: because there is a scarcity of qualified people, a scarcity of talent. It is a by-product of the fact that the sector is growing as quickly as I described, but it means that there is a deficit and a shortage of talent. Whilst I absolutely agree that there is far more that we can and must do to improve our own talent pipeline, that does not solve the short-term problem that companies have. Of our membership, about 20% of employees across the board are probably non-UK EU, and the UK has benefited enormously from a brain drain and a talent drain across the European Union over the last 10 years. Yes, it is in very specific skilled areas, but the esteemed bit, the creativity bit, is also incredibly important. It is not just about understanding the technology but about having the ideas to know what you can do with the technology, so people with a creative background are just as important as the data analyst, and when you bring those people together, that is when you drive really exciting innovation.

Across the board, companies of every size are really concerned about this issue. They are concerned about their existing staff, how they retain them and reassure them about their future in the UK. They are concerned about the short-term pipeline, and if you are a very small company that is growing very fast you will move your company to where the talent is. If you cannot find it on your doorstep, you will relocate to find the talent, which means that those high-growth companies will potentially leave if they cannot get access to the talent. The larger companies are also concerned. They equally need to remain competitive, and they need people to do that, so this an extremely important issue.

Dr Jo Twist: As an add-on because it is important to get these facts out, we already have a skills gap. We have 600,000 tech vacancies right now in the UK. That will rise to a million by 2020.

Matthew Evans: I echo everything that has been said already on this. I would add two quick points. Obviously, we have to continue to attract the highly skilled, the highly talented people to the UK in many respects as substantial research and development in telecoms centres facilitates foreign direct investment. When we, as UK telecoms operators, launch services and products abroad, we often send the product team abroad, so it is also making sure that our expertise can enter into the EU, and I imagine the visa arrangements are going to be reciprocal to some degree. On the telecoms side, and more in the UK domestic market, we are coming to the end of one cycle of investment and are at the start of another. That is capital as well as labour-intensive and it is highly skilled labour, a lot of which is European nationals, so it is absolutely fundamental both to our domestic and our trading success.

The Chairman: Lord Mawson, did you want to come in on that?

Lord Mawson: This country has a long history of creativity, innovation and enterprise, and it is quite a different culture from some of our European partners, as we clearly see.

Dr Jo Twist: Absolutely.

Lord Mawson: Growing and developing those cultures is not instant. It goes back in this country 200 or 300 years. I presume that has real value. Just upping sticks and going to Berlin or somewhere else might seem simple, but actually it might be a bit more complicated because there is not that long history in certain places of creativity, et cetera, and depth of relationships in universities, music and all those things.

Dr Jo Twist: It is an ecosystem, but I think we are endangering our ecosystem if we do not have the people. We have a fantastic story in the UK, which is why we are leading in the tech, digital and creative sectors. We have the creative industries, which are worth £10 million an hour to the UK economy and in which digital software games play a really important part. It is that transfer of skills, and we look globally. This week, we have been hosting some Chinese investors in VR (Virtual Reality) and AR (Augmented Reality) who look at the UK's creativity and digital economy and want to be part of it. So we do have a proud story, but we also have companies that are very worried and already facing skills shortage even before 23 June, so it is important that we do not drop the ball on this one.

Antony Walker: I would absolutely echo that point. You have to view the sector as an ecosystem, and our creative industries are a really fundamental part of it. The risk is that you start to pull some of the threads and then key parts of that ecosystem are eroded. For example, if you are in a situation where it makes sense, due to various single market rules, for major advertisers whose global focus is here in the UK to locate

back into the EU, then suddenly all the ad tech, the digital part of advertising, will go with them. Paris is making a very strong play for that market right now. We must not underestimate the lengths that our trade competitors will go to to try to replicate elements of our ecosystem that allow them to replicate the success that we have had in the UK.

Lord Green of Hurstpierpoint: As a supplementary comment, I absolutely share your view that we cannot underestimate Paris, which you mentioned, and above all Berlin. I think Berlin is making significant ground and, I would guess, gaining ground on us. We may be number one, but Berlin is closing the gap.

The question is about the non-UK and non-EU skills base. You may have given us the percentage of the employment base that is non-UK and non-EU. If so, forgive me because I missed it. It lies within our power to determine how much or how little of that resource we want to attract, and going forward outside the EU it will be within our power to decide how much EU talent we want, whether it is at the front end or the best, as you mentioned. I would be grateful for any comment on how well the current UK system works for attracting talent from non-European sources.

Antony Walker: It has become significantly more difficult in recent years. In the attempt to bring down net immigration numbers, the focus is meant to be on immigration from outside the European Union. The work study visas, which were very important and enabled leading researchers to come to UK universities for postgraduate degrees and have the right then to immediately come and work in UK companies, were a very important and effective way to bring the global talent into the UK, so that has been significantly restricted. We have worked hard to get more tech-specific jobs on to the shortage occupation lists, but that process has been incredibly slow and painful from a sector perspective. Then there is the sheer process of the administration that companies have to go through to bring those people in once they have identified that talent. Going forward, I absolutely agree that we have to find a really friction-free mechanism for bringing highly talented people into the UK, particularly for the really scarce occupations.

In tech, things move so quickly that a new form of software emerges and you might have only 100 people in California who have any experience in that technology, but you need to bring them into the UK so that the UK can build that knowledge. So there are some real issues there.

Dr Jo Twist: Absolutely, and in the past, certainly in the 2000s, the games industry suffered an enormous brain drain of our talent to our friends in Canada. I think we have turned a corner with that, not least because of the different app stores available and the different ways in which people are lowering barriers to entry to making games, but also because we lobbied successfully and the Government lobbied Europe successfully to enable the cultural tax breaks for video games, which has been a tremendous incentive for companies. But then you need the people. We would recommend that the Government review the tier 2 visa

in the light of the referendum result. We responded to the Migration Advisory Committee consultation last year and were slightly disappointed with some of the results. As Antony said, we need faster processing times, a lower minimum amount of funding required from businesses and a lower turnaround time generally for these.

We also need to ensure that we are reforming the tier 2 system and the current system in the light of new jobs. For example, we have a huge, burgeoning opportunity with e-sports in this country, which people may or may not be aware of, so it is that temporary talent. There is a whole opportunity here to review the current system for talent and to try to make it as friction-free as possible, especially for smaller companies.

Lord Green of Hurstpierpoint: Are you making those representations to the Department for Exiting the European Union?

Dr Jo Twist: Yes.

Antony Walker: I think it is early days in that discussion, and we expect a fairly protracted discussion.

Q18 **Lord Green of Hurstpierpoint:** That leads to a broader question that in a sense we have covered. To focus it bluntly, given that we are leaving the EU, I imagine you would say that the next best option from your point of view is to stay with the EEA and still be part of the single market. If that did not happen and we ended up with a WTO basis for trading with the EU, what impact would that have on the industries represented?

Dr Jo Twist: The WTO does not provide the free movement of labour, and it does not provide for the free movement of personal data between the UK and the EU, so we would need adequacy declarations, and I know it would mean negotiations on an unprecedented scale.

Antony Walker: I think there would be an extraordinary amount of uncertainty for a lot of businesses and that uncertainty would have consequences on their decision-making. It is a highly unattractive option from the perspective of the full breadth of techUK members.

Matthew Evans: I fully echo that. As I said earlier, we are at the start of another investment cycle. I think the uncertainty that we already have has the potential to impact some of those decisions in telecoms. What the Government really need to start doing quite quickly is trying to narrow down the uncertainty as far as possible so that we at least know some of the potential options that are on the table and the industry can both start to prepare itself but also seek to engage proactively in those conversations. I think that is as applicable to the telecoms sponsors of the Broadband Stakeholder Group as it is to the broadcast sponsors, whom I believe you are having a session with, but it is critical for the success of the whole digital ecosystem in the UK that we minimise any disruption to the UK's world-beating and mixed broadcasting ecology.

Antony Walker: It is very important to stress that businesses across the board fully accept the outcome of the referendum. To borrow a phrase,

we need a Brexit that works for everyone and we need to make sure that there is an orderly exit that, frankly, does not put jobs, investments and growth at risk. We think that can be achieved. We think there is an extraordinarily huge amount of work that will be required to do that, but falling back on WTO rules in a very short period of time, I think, would be a very significant shock to the economy and to businesses in the sector. We would have to think very carefully about the implications for jobs and growth before determining that that was the right outcome and determining that that is what people voted for in the referendum.

The Chairman: The next question is from Lord Mawson, the last wind-up question is from Baroness Noakes, and then you are free.

Lord Mawson: Is there a creative space where we can enter this kind of discussion with Europe in a different way? We hear that there is a lot of trust in these systems and data, and I worry myself—and you have touched on this—about how this machinery is working in the modern world we are now living in in the EU at the moment. Who has done the work to dig into what is really going on in some of those systems and practices? Are they measuring what is really going on? You remind us that we are all living in ecosystems, and we know in this country that a lot of the systems of government—and my experience says that it is not much different in the EU—are profoundly out of kilter with the increasingly integrated world that you are describing, which is happening now and is going to happen evermore as we go forward. I wonder whether this Committee needs to look into some of that, because it might be that our very systems and the whole discussion we are having with Europe is profoundly out of date. When we checked with the previous people how much they knew about what is really going on, there was great uncertainty. That uncertainty in the processes and the systems themselves, speaking as a person who has been involved in innovation for a lot of years, is a great opportunity, but how do we have a real discussion about it? You are on the leading edge of it, but who is doing that work about practice and about what is actually going on in this machinery?

Dr Jo Twist: We are engaging with our members and we are about to embark on a nationwide tour to really dig into these issues, because we are a sector, and a nation, of problem-solvers. Programming is problem-solving. We can do that. We design systems all the time in games. That is what we do, so hopefully the games industry might be able to. In fact, there were Brexit scenarios run through a game called Football Manager recently, which we will be showcasing to the APPG for the Computer and Video Games Industry on Monday at 4 pm, if you want to come to that. Essentially, this is a new world —

Lord Mawson: For the EU as well.

Dr Jo Twist: For the EU as well. Some of these boxes just do not fit any more. It is an opportunity to redefine them for the good of the nation and the economic health of our nation and the world. The games industry in particular has benefited from the stable regulatory environment that we

have enjoyed in the UK and a very pro-business approach from the Government, which really has enabled our innovation and our creativity to flourish. Maintaining that stable regulatory environment is absolutely critical, no matter how we redefine what we are talking about.

- Q19 **Baroness Noakes:** I think we have heard today why the sector is important, large, economically valuable and part of the future, and I do not think there is any dispute about that. As we go into the negotiations for leaving the EU, let us assume that we are not just going to recreate access to the single market by the EEA or something similar, nor are we going to simply fall back on the WTO, but we will be in the middle where we are negotiating things with the EU about how this will work in practice. Could you just give me your top two things that we should take into those negotiations?

Antony Walker: That is going to be very complicated. The reality is that the sector is underpinned by a very complex set of rules and regulations that have been created at the European level over many years. The UK has been in the European Union since 1973 and most of the sector is younger than that, so it has grown up and taken the membership of the European Union for granted, and it is underpinned by an enormous amount of European-based legislation. The job of any negotiation will be to go through that body of law, directive by directive, regulation by regulation, and try to determine what the implications of each piece of legislation are for the UK and how it can be at least interoperable, if not fully harmonised, with the European Union. You have to go line by line through each regulation to understand particularly the process for resolving differences of view or conflicts across different Member States and how you adjudicate for complex areas of decision-making. I do not think there is anything other than a very hard slog to go through that. In a scenario where it was clear that the UK was leaving the single market, there would have to be some kind of interim arrangement that gave time for those negotiations, because those negotiations will not happen quickly.

Dr Jo Twist: For us, any trade agreements would have to ensure the free flow of highly skilled talent and the free flow of data. Those are the two top things for us.

Matthew Evans: I would echo what has already been said. It is about tariff-free access to the single market, and an absolute focus on non-regulatory barriers is also key. In the interim, I fully support and echo what Antony said about the prolonged nature of these negotiations, but the Government have to provide as much certainty as they can over that period to industry. I would also say that the Government can do things particularly in the telecoms world around standards, because telecoms tends to be governed by international standards, but we have relied on the EU to do a lot of our work and interaction with international standards bodies, and it is really important that the Government work to increase their activity in this area. Business knows that it will need to support them to do so, but when we go to the standards bodies we tend to go as

UK delegates, so the Government have a huge convening role as well as providing some of the manpower and resources to help us do so.

Dr Jo Twist: I would like to add that, whilst keeping an eye on the digital ball, we must not preclude our potential to be a high-tech manufacturing destination. The ITA exemptions on hardware are very welcome. We are now looking at a huge market potential in VR and AR and really innovative, new platforms, new technologies and new hardware, so maintaining those as tariff-free would be ideal. We can see that it is possible to compete with China in some regards, and we have the Raspberry Pi being manufactured in Wales. That would be great to have as a high-tech digital manufacturing future.

The Chairman: On that note, thank you all very much. You have taken us over a fair amount of ground there. As you heard me say to the previous witnesses, please check the transcript. If you wish to add to it or anything occurs to you after you have left the room, please get in contact with the staff here. Meanwhile, we will note Dr Twist's offer of gaming technology both to David Davis and possibly even to President Juncker, because we are in one seriously big game here. Thank you very much indeed.