



HOUSE OF LORDS

Revised transcript of evidence taken before
The Select Committee on the European Union
Internal Market Sub-Committee
Inquiry on
CIVILIAN USE OF DRONES IN THE EU

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Heard in Public

Questions 1 - 8

THURSDAY 21 APRIL 2016

10.10 am

Witnesses: Robert Goodwill MP and Paul Cremin

Members present

Lord Whitty (Chairman)
 Lord Aberdare
 Baroness Donaghy
 Lord German
 Lord Green of Hurstpierpoint
 Baroness Noakes
 Baroness O’Cathain
 Baroness Randerson

Examination of Witnesses

Robert Goodwill MP, Minister of State, Department for Transport, and **Paul Cremin**, Head of UK Aviation Operational Safety and Emerging Technologies, Department for Transport

Q1 The Chairman: Minister, thank you very much for coming before us this morning. I know that your diary is not that easy, so we will get through the business before 11 o’clock. You will know that our report was commissioned by the previous incarnation of this Committee. We are lucky enough to have with us the Chair at that time, Baroness O’Cathain, who will join in the questions. The report itself covered a number of issues. There have been developments, principally in public consciousness of this issue, although not quite so much on the regulatory, government or Commission side. We will start by asking you what developments you see from the Government’s point of view since our report was published. Perhaps Baroness O’Cathain would like to add to that.

Baroness O’Cathain: Good morning, Minister. It is very nice to see you here. Of course, they were not involved when we did the report in the first place. I thank Lord Whitty and the Committee for tolerating my coming here today.

I am still very interested in the whole issue. What is really concerning is the lack of progress, or apparent lack of progress. You can have an incident like the one last weekend, with the British Airways flight, but nobody will be thinking about that by next week, unless there is a big disaster. I think you still have time to do something, but I am concerned that there has been no progress even though the report was extremely well received. We had a reply within 13¹ days of publication, as I recall, which is quite amazing, but the reality is that nothing much has happened about the big issues—licensing and insurance. I am not so sure about JARUS², as I have not kept up with that. The big conclusion that we reached was that the

¹ It was actually reported to be 21 days.

² Joint Authority on Rulemaking for Unmanned Systems

drones issue is here and is not going to go away. There are huge opportunities for manufacturing—for light engineering, which this country is extremely good at—but nothing seems to be happening, or, if it is, it is not getting any publicity, and when something like the incident last weekend happens, it is all covered with mist again and people do not realise what it is.

In this country, people have to have a licence and insurance to drive a car. They have to have a licence for a gun, and insurance, I think. If they have a drone, it seems that they do not have to have a licence or insurance for it, but it is—or could be—just as lethal as the use of a gun or a car. We even chip dogs, but drones are allowed to do whatever they want—or, at least, they do whatever they want. As a member of the general public, I hope I am not wrong in saying that we are on the cusp of something really bad happening unless something is done. What progress do you think is going to be made?

Robert Goodwill MP: As the Minister for cycling, I get letters from colleagues' constituents almost every week suggesting that we should have a compulsory registration system for bicycles, and, indeed, compulsory training for bicycle riders. The number of bicycles out there means that that is difficult to do, not least because people build their bicycles from parts. In some ways, there are parallels with that.

It might be helpful if I let you have a copy of two letters that the Secretary of State has written this week, one to Andrew Haines at the CAA³, specifically on the issue of drones and what we may be able to do, using the upcoming modern transport Bill, to fill any gaps in our regulations, and the other to Steve Barry, who is the assistant chief constable of Sussex Police and leads for the police around the country on drones and on lasers, which we are not covering but it is another issue affecting aviation. I will let you have those two letters, which I hope will inform your deliberations.

The Chairman: That would be very helpful. Thank you.

Robert Goodwill MP: One of the difficult conundrums we face is whether we can get an international agreement, either at European level or at a completely international level, on technology or on some sort of licensing—we are more likely to get one on technology solutions—or whether we should go it alone. In parallel, we have to look at whether there are technological solutions, such as geo-fencing—so that a vehicle cannot get near an airport, or Faslane naval base or this building—or linking to the GPS, so that we can put in an altitude

³ Civil Aviation Authority

limit. There is a 400-foot limit on altitude, but you may be standing on a mountain that is 100 feet high, or higher. Those are some technological solutions.

As regards what we are doing internationally, I can say a little about what we are doing in the European Union. The EU has developed a strategy to support the progressive development of the drone market in Europe, while addressing concerns about safety. In parallel, Member States are required to address concerns about security, privacy and public acceptance. You said that there has been lack of progress, but progress has been made. The strategy was endorsed by the Member States and the aviation community in the Riga declaration, which was made public after the conference organised on 5 and 6 March 2015. We have now commenced detailed negotiations on the EU aviation strategy package, published on Monday 7 December 2015, including a legislative proposal to replace Regulation (EC) 216/2008, which is the basic EASA Regulation. That includes proposals to extend EASA's scope to cover all drones, including those below 150 kilograms, which are not covered by the basic Regulation and are therefore currently subject to national rules. Council working groups began negotiating on those proposals in January 2016 and are continuing to develop the text. We currently anticipate formal adoption of the Regulation in the latter part of 2017.

EASA has published its new regulatory approach to drones, for safe operation of remotely piloted aircraft systems. That new approach is set out in its "Concept of Operations for Drones", which can be downloaded from the EASA website. In July 2015, EASA conducted a consultation on the introduction of a regulatory framework for the operation of drones. That consultation covered an overall regulatory framework for drone operations, as well as concrete proposals for the regulation of low-risk drone operations. It has received over 3,400 comments from more than 250 respondents.

There are some other technical points that I could go into, but time is pressing. I can probably let you have the rest of the note that I have to inform you.

The Chairman: That would be very useful. Thank you.

Q2 Baroness O'Cathain: I will make just one comment and then shut up. At least that is progress, or seems to be progress, but in typical dealings between EU Committees and the Commission, nobody is prepared to say, "By 10 November", or by whatever date. It is a case of, "How long is a piece of string?" The situation is that we are in happy valley at the moment, but I am worried that the reality could just blow up. That is all I am saying: that there is no sense of urgency.

Robert Goodwill MP: Yes. There are the typical frustrations of trying to get 28 Member States on the same page at the same time.

Baroness O’Cathain: At the conference you were at—both of us were there—there was so much determination to get on with it, particularly from our own CAA and the Department for Transport. I came away from that thinking very positively, but it has just gone oosh.

Robert Goodwill MP: We have taken some steps. For example, there is the information leaflet that is made available to people when they buy drones—the “You Have Control” leaflet. There is also a very good animated YouTube clip, which is very informative and makes their responsibilities very clear. A number of the major retailers, including Maplin, Currys, Argos and the gadget shop Menkind, are giving out the leaflet, so in most cases people understand their obligations when they purchase drones. There is one major retailer, Amazon, that we have still not got on board. It says that it is complicated because of the international nature of its business, or something like that. We are still working on it. It is important that people understand their obligations.

The Chairman: In the UK, if you are selling across the counter, as distinct from electronically, do you now have to give the guidance and the leaflet, or is that up to the retailer?

Robert Goodwill MP: It is up to the retailer to participate. Of course, companies like Amazon are not currently participating. If they read the transcript of this evidence session, they may be encouraged to do so.

The Chairman: We will ensure that they get it. We have them in our sights.

Robert Goodwill MP: In some ways, we are down to the situation with gun registration: the people who wish to be compliant and use these things sensibly will be the people who register. The ones who buy it from a mate in the pub may well be the irresponsible ones. If a person was intent on terrorist-type attacks, they would go to great lengths to make sure that they evaded any registration system. Given how people can get hold of things like guns, I suspect that somebody who intended to do that type of attack could get hold of a drone from some source without necessarily having their name attached to a document relating to it.

There are moves to have some sort of identification chip in the drone, which would at least enable you to know exactly where it was manufactured and retailed. Mr Cremin may want to come in on that. Of course, we have not even got there yet in the general aviation sector. Light planes do not have those yet, so we would be moving ahead on a small hobby item, in some cases.

The Chairman: At least light planes have to have a registration number that you can see.

Robert Goodwill MP: Yes.

Lord Green of Hurstpierpoint: In general, if you buy these online, you do not have any warnings or registration requirements. I would guess that a high proportion of them are bought online.

Robert Goodwill MP: Yes. That is why we are keen to engage with people like Amazon.

Lord Green of Hurstpierpoint: Amazon is not just another retailer; it is pretty central to this.

Robert Goodwill MP: Maplin is the market leader. A lot of people go into a retailer and buy them there, but you are right—a lot are bought online. They probably go to the shop, see what they want and then get a better deal online.

The Chairman: Baroness Randerson has been asking questions on the safety issue. She will take the opportunity to do so again now.

Q3 Baroness Randerson: The Committee's previous report proved how important Amazon is in any market, so the fact that you do not have Amazon on board worries me a great deal, Minister. I noticed three written questions this week alone in the House of Lords on the drones issue, so there is a great deal of concern. I see huge potential for benefit in this market and the use of drones. What concerns me is that slowness in the Government's response to the inevitable risks associated with them could stultify that market. This week, we had the first reported drone strike at Heathrow. If things had been worse than they were, we would have had a national outcry about it. When the Committee, of which I was not then a member, reported a year ago, it looked at public safety and nuisance. Of course, there are also issues associated with privacy, so it is a very complex situation. You referred to the CAA. What measures and resources have been put in place to assist the CAA and the police to deal with this issue?

Robert Goodwill MP: The first point to make is that it has not been confirmed that the reported drone strike on Sunday was actually a drone. The local police force tweeted that it had had a report of a drone striking an aircraft, but early reports of a dent in the front of the plane were not confirmed. There was no actual damage to the plane; indeed, there is now some speculation that it may have been a plastic bag or something. I have not actually landed a 747 at Heathrow, but I have landed a simulator; the pilot has a lot of things to concentrate on. We are not quite sure what they saw, so we should not overreact to this too much.

There have been some airport incidents, a number of which are of great concern. Our primary responsibility as a Government is the security of our citizens. That is why we have one of the highest regulatory safety standards for commercial aviation in the world. There are already laws in place that require users of drones to maintain direct, unaided visual contact with their vehicle and not recklessly or negligently cause or permit an aircraft to endanger any person or

property, so the alleged incidents that we have read about were breaking existing regulations. Indeed, the department and the Civil Aviation Authority are working with a wide range of industry partners across the sector, including manufacturers, airports and airlines, to ensure that our understanding of potential hazards to aircraft remains up to date. We are also talking to both the CAA and airports to develop potential technical solutions to the problems around airports. Those include mandated geo-fencing and frequency jammers, which could prevent illegal incursions by drone. Incidentally, last night I talked to the MD⁴ of one of our major airports, who said that they use drones in the airport to inspect aircraft in hangars so that they do not have to put up scaffolding. They are quite useful to the industry.

We believe that education for drone users is vital. The DfT⁵ is working with the CAA on raising awareness for responsible drone use. That includes our CAA Dronecode safety awareness campaign and the issuing of the safety leaflets that I have already mentioned. Of course, for those who are operating commercially, the training takes that into account. The animated video on the CAA website is very good indeed.

The cross-government working group on drones has undertaken analysis of the use of drones for criminal purposes, including the potential use of drones for terrorist purposes, and the impacts of their negligent use near sensitive locations such as airports. That work is kept under review and is being used to inform research and testing to improve mitigation techniques and strategies. Guidance on tackling the risk of criminal drone use has been provided to constabularies across the UK. The Secretary of State has written to the Mayor of London and the police to request their assistance in raising awareness of drone risk and restrictions. I must point out that the type of payload that can be carried by a drone is very small, compared with the type of payload that can be put into a car bomb, a truck bomb or something like that. There is a risk, and we need to be aware of it, but there are also other risks, from rucksacks and bags, as we saw in Brussels recently, which can cause devastation. Sadly, it is not hard to deliver a bomb to a location in this country where there are a lot of people around, and you do not need a drone to do that.

Baroness Randerson: In reply to a question that I asked, which referred to a reply to Lord West, Lord Ahmad referred to the Government considering geo-fencing and working with other Governments on the registration scheme. You have referred to that. Do you have a timescale for it? What the Government are thinking of doing, what they are considering and so on, is very interesting and is clearly in the right direction, but the technology is moving

⁴ Managing Director

⁵ Department for Transport

very fast. There is an urgency about this, so we need to know about the timescale. What measures are in place currently to protect high-value locations in the UK?

Robert Goodwill MP: Some manufacturers are already fitting geo-fencing. The worry is how vulnerable it could be to somebody who could get round the software and fix it in some way. I will ask Mr Cremin, who is our technical expert, to say a little about geo-fencing and where we are on that.

Paul Cremin: Your Lordships will be aware that we are talking to NASA at the moment about a longer-term solution. We are involving UK industry in those discussions about developing an unmanned traffic system that will deal with a lot of the problems you have been talking about today, but getting the complete system in place is a little way down the road. I would not like to put a date on it at this time, because the issues that we have to deal with in that system are very complex.

As the Minister has already highlighted, there are issues around geo-fencing that are not clearly understood, particularly to do with the impact that the use of jammers may have on people who use other radio-operated devices. We are doing some initial work and studies to look not only at how successful jamming or geo-fencing can be but at the impacts that it could have on other infrastructure that relies on those frequencies. That is sensible, before we rush into something that causes problems elsewhere, but I recognise from your Lordships that we need to do something in the interim. We are talking to UK industry about potentially developing a safety app and various things that we could do in the short term to get around the problems. Again, I cannot put a date on that, because we have to go through various procurement processes, and we have to test the robustness of the apps and the credibility of what the industry people are providing.

The Chairman: We will probably go back to the process issue later. In addition to security and safety, there is the privacy issue.

Q4 Baroness Noakes: There are a number of concerns, and increasing concerns, in relation to privacy. While our report concluded that there was an existing legal framework, it is quite complicated and not necessarily comprehensive, and I would be interested to hear what the various agencies—the CAA, the police and the Information Commissioner’s Office—are doing. Are the Government in particular content with what is being done? Are there gaps that still need to be filled?

Robert Goodwill MP: In some ways, the use of a drone is similar to somebody using a telephoto lens, or your next-door neighbour climbing up a long ladder and looking into your garden or house. There is already legislation that would cover other ways people could intrude

into your life. There are also laws in place on harassment. If a drone was used in a way that could be described as harassment, those laws could be used. It is not part of its remit, but the CAA goes on to YouTube to see where these vehicles have been used inappropriately; for example, if footage is posted from above a football stadium, which would be a dangerous place to fly, or if pictures are taken. I think that Richard Madeley recently had a drone photographing his private house, which was inappropriate.

Operation of drones that collect data must comply with the Data Protection Act (DPA), unless a relevant exemption applies. The requirements of the Data Protection Act are regulated by the independent Information Commissioner's Office (ICO). It has published information on its website that gives guidance for users of drones. If people feel that a drone operator has breached the DPA, they can complain to the Information Commissioner by visiting the website and reporting a concern. The ICO can enforce against people who breach the DPA by requiring them to change their practice or, in the very worst cases, by fines. It remains engaged with the cross-government group on privacy issues. If more needs to be done, I suspect that it will be more a Home Office issue than an aviation-related issue. There is already legislation in place to protect people's privacy. The use of a new means of gaining that access does not change the fundamental way in which the law can work.

Baroness Noakes: Do the Government believe that that is an effective framework?

Robert Goodwill MP: We would be interested to hear what the Committee might have to say on that.

Baroness Noakes: No. You are here to answer the questions, Minister.

Robert Goodwill MP: It is a Home Office issue, so we might want to see what it said. We deal with aviation. Matters of privacy are probably a bit beyond my remit. The advice I have been given is that just because you are using a new method to gain access to somebody's private property or data, it does not mean that the law will not still apply.

Although we are told that thousands of drones are out there in circulation, I suspect that the busiest day for drone flights in this country is Boxing Day, and a lot of those drones are sitting on top of people's wardrobes now that the novelty has worn off. For example, I have not yet observed a drone flying in my village. I have seen a drone on only three occasions in the last six months, one of which was photographing the "Flying Scotsman" and subsequently crashed on to one of the carriages. There is an ongoing inquiry into that, so the incident at Heathrow Airport was not the first instance of a vehicle being hit by a drone.

This is not something that many members of the public feel is intruding into their privacy at this stage. Most people take these vehicles to a park or somewhere like that to fly them. My

impression is that the novelty wears off quite quickly, unless people get completely into the photographic aspects and use it as a hobby. We do not see very large numbers of drones flying on a day-to-day basis. That is not to say that they cannot be used inappropriately, that there is no threat from them and that people's privacy could not be affected. I have seen thousands of bicycles on the streets of London this morning. People use their bicycles on a daily basis. Not many people use their drones on even a weekly basis, I would suspect.

Lord Aberdare: The issue for me is not so much the recreational use of drones—I am sure you are right and that after Boxing Day there is a rapid fall-off—but their rapidly growing commercial use. I know quite a lot of youngsters who are building their own drones, so presumably geo-fencing will not make much impact there, and then trying to set up businesses, which may be to do with looking at the state of farmers' fields or the condition of houses. As there are more and more commercial uses, it will raise the issue of how much personal, private data is available to commercial users of drones, and how that might be regulated.

Robert Goodwill MP: Commercial users must undergo training. It is quite a detailed course. It costs about £1,500 to obtain the qualification.

You are absolutely right: there is tremendous potential for all sorts of new businesses to be formed. In fact, a business in my constituency will go out to wind turbines on vessels and use drones to photograph and inspect the turbines, given the difficulty of putting a ladder on to the pitching deck of a ship. There is other technology for 3D mapping of buildings, which will mean that one can measure up windows and inaccessible places by flying the drone around. We are looking at parcel delivery. We are not quite there yet, but we are very keen to work with some of the larger companies in that line of business. Incidentally, when they came to see me, they said, "We want to trial this in the UK, because the regulation in the United States is not sufficiently flexible to allow us to do it". We need to be the place in the world, certainly the place in Europe, where we can encourage that type of innovation.

A company in my constituency working in the defence field is building small drones for battlefield use, which will have great effect. We already have small drones and small shoulder-fired aircraft that we use in the field. There are all sorts of very innovative work, both to develop the equipment and to utilise it. As a farmer myself, I know that it is always helpful to see where the bald parts are in a field. We must not allow the regulation to stifle the innovation. We must make sure that whatever regulation we bring in is proportionate to the risk and understands the actual risk, and is not a knee-jerk response to some of the media reports that we have seen, which can sometimes be a bit inflammatory.

The Chairman: We are certainly conscious of the opportunity that this presents, both for use and for British manufacture. That is very much in our sights.

Lord Green of Hurstpierpoint: I have a quick follow-up to the question of the effectiveness of the framework for monitoring abuse of privacy. Has there in fact been a series of notifications to the ICO or prosecutions for not following the commercial users' training package, or anything like that?

Robert Goodwill MP: I think there have been three prosecutions. Do you have details, Paul?

Paul Cremin: There have been three prosecutions to date, but those were about misuse and flying in places where they should not be. On the privacy side, as far as I am aware there have been no reports to date to the ICO of any concerns raised by the public directly. That is not to say that people are not concerned; obviously they are, and it is an issue that we take very seriously. We are trying to work on it. This is largely about education, again, and making sure that people understand the rules on privacy. We are working with the ICO very carefully to make sure that people are aware of their rights and that drone operators are aware of the limitations on their operations.

The Chairman: We go back to government process.

Q5 Lord Aberdare: In your letter, Minister, you mentioned that you have recently been holding some public dialogue events and that they raised some "important issues", on which you will consult further. Can you tell us something about the outcome of that, what the important issues were and what sort of shape your planned strategy might take?

Robert Goodwill MP: It is a three-stage process. We need to have the dialogue. Then we need to make proposals we consult on. Then we can, if necessary, take action. It is important that we start off with the dialogue, because the people out there who are involved in the industry commercially and the people who manufacture this equipment will feel that they ought to be involved at ground level.

We conducted dialogue in three waves of reconvened workshops in five locations—Aberystwyth, Manchester, Stirling, Salisbury and Newry—which were held from December last year to February 2016. Members of the public across a broad demographic spread were recruited to take part, and a total of 118 people participated in the three waves. Experts and stakeholders, including regulators, police, drone operators and academics, also participated in the dialogues, to listen to and support informed debate. An oversight group provided steering and support throughout: for example, helping to ensure that the stimulus material used in the workshops was accurate and balanced. A full report on the process is being finalised and will be publicly available in May 2016. We will let you have a copy.

The outcomes of the report will inform the government consultation and a strategy that will be published later this year. The strategy will seek to strike a balance between addressing the growth opportunities in this new emerging sector and the societal concerns that we will address about safety, security, privacy and data protection. The challenger business programme at the Department for Business, Innovation and Skills has been working closely with industry and with Innovate UK to understand the barriers to growth, including investment in this sector, and will continue to work with my department to support the creation of a drone strategy later this year.

The Chairman: Does the consultation include the possibility of legislation? Somewhere there was a reference to inclusion in a transport Bill. I am sure that you will say that you cannot possibly anticipate the Queen's Speech—

Robert Goodwill MP: That is an option. As a former Minister yourself, Lord Whitty, you will know that we do not speculate about what might be in the Queen's Speech. Indeed, if there was a transport Bill in it, we could never be quite sure whether we could hang every single coat on that hat stand. If necessary, there will be opportunities to legislate. In many ways, we want to work with the industry and the operators, using existing legislation to protect aviation and privacy. It is not as if this is an area where we do not already have laws. As we heard, prosecutions have taken place and people have been warned. People operating commercially are participating in the training scheme; they understand the importance of getting the training. Lots of small and larger businesses are being set up to work in agriculture. Estate agents, for example, can provide a nice aerial shot of the house or estate that you are putting on the market. You all have estates in the Lords, have you not, not just houses?

The Chairman: Obviously.

Robert Goodwill MP: In the old days. The option is there. The consultation has been very helpful in informing us, particularly when talking to the police and other enforcement agencies, as well as the operators and developers.

The Chairman: Lord German has a question on the EU level.

Q6 Lord German: Can I move you on to the proposals by the European Commission and by EASA? The Committee's report wanted a balanced form of regulation that looked at the needs of industry and development, as well as the need for security for the people of the European Union. In your letter to the Committee of 14 March, you talked about EASA proposing to make "sweeping use" of Delegated Acts in the Regulation. Especially in relation to the issue of proportionality—moving forward on the weight of the drone, rather than the

job that it is doing—do you believe that the proposals from EASA are a significant risk to the needs expressed in the Committee’s report? If so, what are the Government doing about it?

Robert Goodwill MP: As a former Member of the European Parliament, I know that there is always a risk that legislation will become stifling and not do what you want it to do. I am somewhat reassured by the fact that Articles 1 and 4 of the Regulation call for the improvement of the overall performance of the civil aviation sector. We believe that the risk of the EU adopting highly prescriptive Implementing rules that would stifle innovation is low. Indeed, we are working with other Member States to ensure that the detailed rules will be adopted under Implementing Acts, rather than Delegated Acts. Having Member States involved in the adoption of Implementing Acts will provide the opportunity to actively scrutinise the rules and to ensure that they are consistent with the stated objectives and principles of the draft Regulation, which are to improve overall performance. It is a risk, which we are aware of, and we will be doing what we can to ensure that we do not have the stifling type of regulation but an enabling type of regulation that makes clear to people where they stand and what they need to do simply to comply.

Lord German: Obviously the question is: how long will it take, and where are you in that process? There is a secondary issue relating to the workings of this new proposal—the JARUS activity. One of the Committee’s conclusions was that “stakeholders had legitimate concerns about the transparency and capability of JARUS”. At that time, the Committee welcomed the “intention to involve industry more in its work”. We understand from some industry people that that is not happening and that the industry is concerned that it might get proposals that are overwhelming and heavy-handed. Is that really a concern? Should the industry be concerned about it? Perhaps you could say where you are in the whole process of arriving at some conclusion to this matter.

Robert Goodwill MP: It is a concern, and we very much share it. At the most recent JARUS meeting, which was between 11 and 15 April, selected industry participants took part in the proceedings and were present in the working groups, but the UK remains concerned that not enough is being done to get industry involved in helping to shape the rules that will affect it. For that reason, I am pleased to be able to confirm to the Committee that the UK has established a new forum, under the auspices of the cross-government working group and chaired by the CAA. The aim of the group is to provide a mechanism to facilitate industry participation, to consult and to gather industry stakeholder feedback on future proposed policy and regulation, whether national or international. While JARUS is one of the most effective groups at developing regulation in this fast-moving environment, there are challenges for the

group. JARUS could benefit from more clarity on its responsibilities within the group, including directing activities.

Secondly, the level of resource required to deliver the pace of regulatory development in this fast-moving environment is increasing, so Member States may not be able to support a desire to accelerate the process. We share your concerns and are taking action to make sure that we can accelerate progress from the UK side, and to bring pressure to bear on our European colleagues to realise that it is important. Technology is developing apace. We cannot allow the legislation and the framework to be left behind.

The Chairman: Is that UK forum up and running?

Robert Goodwill MP: Yes.

The Chairman: Great.

Q7 Lord Green of Hurstpierpoint: Let us turn our attention to the other side of all this—the development of RPAS products. You reminded us that we should not dwell all the time on the negatives and the risks and that there are some very obvious socially beneficial uses. Another aspect is ensuring that British industry is at the forefront of the development of the product, because there are huge opportunities both in this market and in the export market.

I refer to the conference on RPAS at the Royal Aeronautical Society last year, where a number of producers made the point that is quite common to British industry overall and not just to RPAS—the shortage of venture capital to help them develop their products and grow to scale. It is a generic issue. None the less, in a new technology such as this, venture capital becomes a particularly important question. Are the Government conscious of that being an issue? There are opportunities such as the European Fund for Strategic Investments (EFSI), which is run by the ECB⁶. I do not doubt that there are other sources of publicly generated venture capital-like finance around. Are there useful measures that the Government can take to ensure that the sector is aware of those opportunities?

Robert Goodwill MP: I have already underlined the fact that, here in the UK, although we may not have developed our regulatory framework, from a practical point of view, to keep pace with development, at least we are not in the situation of many other economies around the world where regulation is stifling development. As a former banker yourself, I am sure you will understand the difficulties of securing finance for some of these new and innovative types of business. Fortunately, banking is not something I am an expert on, so we will not talk about why the UK may have been slow in the past to develop some of those things. There is a

⁶ European Central Bank

dynamic marketplace, with fast-growing businesses attracting venture capital around the globe. We have some successful British start-ups, such as Sky Futures and Cyberhawk, which attracted respectively £3.9 million and £1.25 million in investment in 2016 alone. Since 2010, Innovate UK has funded 79 RPAS research and development projects with the research councils. The total public contribution to those projects was £22.7 million, of which £14.7 million was in the form of grants given through competitions.

European funding has a role to play. Alongside those of France and Italy, the UK's small and medium-sized enterprises and firms are among the biggest beneficiaries of the European Fund for Strategic Investments. UK projects have received around £1.7 billion, which is a third of all EFSI-supported lending. We are exploring further options for extending those benefits to RPAS businesses in the UK. As we all know, when you have a new idea, it is often difficult to get the money to fund it. At least this is a technology that everybody predicts will develop in the future; it is not something where an entrepreneur has to explain to his bank manager what it is before he tries to get some money. Of course, it is to the banking sector, almost at retail level, that many very small innovation businesses will look for investment.

There are some big advantages, particularly looking at larger vehicles. Before we came in, Mr Cremin and I were talking about how Royal Mail may be looking at larger vehicles for delivering post in some of the more remote parts of our country. They would be larger than the types of vehicles most people are talking about. There will be opportunities for companies to develop those—possibly companies that are already operating in the defence field, where there is an awful lot of “beyond line of sight” work going on. Like so many areas of aviation, it is often defence investment that leads innovation in the civil sector, as we saw with the development of new aviation materials; and, indeed, the space sector has often led R&D that has then found other ways of being invested. I hope that looking at the way in which companies have been able to access this funding—particularly our success in a European context, achieving a third of the money available—shows that at least there is some good news as regards the companies operating here in the UK.

Lord Green of Hurstpierpoint: Thank you, Minister. You have described a rather healthy position, in many respects. Can I ask that the Department for Transport takes as a constant obligation monitoring the position of industry in this country vis-à-vis our natural competitors on the production and development side in France, Italy and the US, to make sure that we are not missing out on tricks that other people have discovered so that, in the ideal position, we are ahead of the curve?

Robert Goodwill MP: This is a BIS lead, so they would be the ones to do that. I will write them a letter following this meeting to ask them to give me regular updates about progress in that field. You are absolutely right: we need to ensure that we do not lose out and that we keep the momentum going with business. The business in my constituency is not an aviation business. It provides software so that planes, submarines and ships can talk to one another securely. Basically, it was looking to do something a bit different by developing some of these systems. There may be companies that have not been in aviation that are looking at some of the smaller applications, but for large aircraft I suspect that it is the more established companies that will have the R&D to do that.

In some cases, with technology that could also be applied in a military way, I suppose there is an issue with the ITAR⁷ restrictions on that happening. In some ways, the UK has an advantage there in that our friends in the United States are more likely to be able to share some of the technology and allow it to be applied here than in some other nations around the world, where they would be a bit more nervous.

Baroness Donaghy: I apologise for being late. I want to ask a quick question. Which countries have stifled innovation because of their regulation?

Robert Goodwill MP: The United States of America—the land of the free, so-called.

Q8 The Chairman: Thank you very much for that. I am very conscious of your time, Minister. We had two slightly more technical questions; one relates to the possibility of having a block of airspace dedicated in effect to delivery by drones, and the other relates to anxieties about the availability of secure frequencies on the radio spectrum. If you have any immediate comments, can we have them now? If not, could you write to us on those two issues?

Robert Goodwill MP: I can give you a copy of the note that I have in front of me, which indicates where we are. We need to be sure that we do not stifle future innovations that may require some of the airspace. The same applies to radio frequencies. While allowing that spectrum to be available for this sector, we need to ensure that other sectors that may need to use it are not stifled. I will send you a copy of the note that I have in front of me, which will help with more detail.

The Chairman: That would be very helpful to us. It is only right that I give the last comment to Baroness O’Cathain.

⁷ International Traffic in Arms Regulations

Baroness O’Cathain: It has been fascinating to hear your replies, Minister, but sad that progress has not been that quick. There was a moment when I looked over at Lord Aberdare and thought about how he and I went to Imperial College in Exhibition Road when we were doing some other work, on digital skills. This Committee also did a first-class report on research and innovation. There is a huge amount of funding available in the European Union. The techniques, the technology and the know-how are there at Imperial College, where they are always looking for partners to do work like this. It might be a good idea to float the point about Imperial College with BIS and to do something about trying to get our hands on the money in Brussels. It would be just the thing to do.

Robert Goodwill MP: I take that point. My son went to Imperial College, so he never fails to underline the importance of the work that they do there as one of the top 10 universities in the world.

Baroness O’Cathain: Yes, in the world.

Robert Goodwill MP: Indeed. That underlines how, if you look at the way UK universities operate with regard to R&D, we tend to throw a lot of resource into the very best, to get cutting-edge technology. Other jurisdictions around the world tend to spread it fairly thinly and do not get quite the same type of Nobel Prize-winning research taking place. We must cling on to that. It also shows how successful the UK has been at getting European funding for research. They see that this is where the new gene therapies, the new materials and the new software are being developed. The UK has been very successful at that over a number of years with its very best universities.

The Chairman: That is another note for your colleagues at BIS. Thank you very much for your time this morning, Minister, and for answering all our questions. We look forward to receiving copies of the letters.

Robert Goodwill MP: The two letters are here.

The Chairman: We will sort that out now. Thank you very much. We have just about managed to let you go by 11.

Robert Goodwill MP: That is very kind.