HOUSE OF COMMONS

Transport Committee

Oral evidence: Rail technology: signalling and traffic management, HC 67
Monday 4 July 2016

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Written evidence from witnesses:

- Thales
- Siemens Rail Automation
- Alstom UK & Ireland
- Angel Trains, Eversholt Rail Group

Watch the meeting

Members present: Mrs Louise Ellman (Chair); Mary Glindon; Karl McCartney; Mark Menzies; Huw Merriman; Will Quince; Iain Stewart; Graham Stringer; Martin Vickers.

Questions 133-184

Witnesses: **Alistair McPhee**, Vice President, Ground Transportation Systems, Thales, **Paul Copeland**, Managing Director, Siemens Rail Automation, and **Nick Crossfield**, UK&I Managing Director, Alstom; **Andy Course**, Chief Operating Officer, Eversholt Rail, **Malcolm Brown**, Chief Executive, Angel Trains, and **Tim Gilbert**, Engineering Director, Porterbrook Leasing, gave evidence.

Q133 Chair: Good afternoon and welcome to the Transport Select Committee. Could we have your name and organisation, please?

Alistair McPhee: I work for Thales. My name is Alistair McPhee and I am the managing director of Thales Transportation in the UK.

Paul Copeland: Paul Copeland, managing director, Siemens Rail Automation UK.

Nick Crossfield: I am Nick Crossfield, managing director of Alstom in the UK.

Q134 Chair: Thank you. Could you tell us where technology suppliers fit into the strategy of rail technology deployment?

Paul Copeland: We have a vital part to play in the strategy of technology. Clearly I and my colleagues here from the industry are providing that technology. Therefore, it is vital that we are consulted on any process of moving technology forward.

Alistair McPhee: As the railway demands increased capacity and improved performance, technology lies at the heart of the solution. It is important that we all work together in establishing the strategy so that we get the right strategy, have a collaborative approach and are aligned in what we are trying to do between our customers and the supply chain. There is some work to be done, but it is something that is crucial for going forward.

Nick Crossfield: We are at a critical point in terms of the technology coming into the marketplace. We are at a place where we are transitioning from a traditional set of legacy technologies that have been there for a considerable period of time. The next generation of technologies is very different in form and characteristics from what we have seen in the past. As technology organisations, as well as being the actual providers of the technology itself, we have a great deal to bring in terms of how that technology can be deployed in the timescales in which it will need to be deployed if the benefits are to be realised and the business cases are to be met. All three of us are part of large international companies that have developed and delivered the technology in other mature, sophisticated marketplaces. There is a vital role that we can play in bringing some of that expertise and experience into the UK market, which I would characterise, if I may, as slightly immature in its approach to the delivery of those new technologies.

Q135 Chair: What can you tell us about applying signalling technology in other countries? Some of you have been working outside the UK in that area. What can you tell us about that?

Nick Crossfield: In other countries, particularly in some of the developing economies, we see much shorter engineering cycles. The issue that we face in delivering the technology on to the infrastructure are the engineering cycles and product approval cycles that you have to go through. I would characterise other parts of the world that we deal with as much easier environments in terms of product acceptance and product approval, and the engineering that sits around the development of that technology.

Alistair McPhee: The only thing I would add to what Nick is saying is this. I have been in the industry since 2002. I came from defence. When I arrived, there was a lot of talk about ETCS and the way forward, so we have clearly been talking about these technologies for quite some time. What characterises other countries is that there are decisions to take these technologies forward. We need a decision, and that is important. It has not been very clear in the UK. What is very clear now is the fact that, as we see the railways getting ever busier, and there is demand from our customers to make the railway perform better, in reality technology is the only way forward. We are now coming back to looking seriously at ETCS, and products like traffic management, which can make a difference to the operation of the railway. A very clear strategy, followed through with a very clear decision to get on with it, would be very important for us in the UK.

Q136 Chair: Mr Copeland, do you want to add anything?

Paul Copeland: The only thing I would add is something that has been highlighted already. We need a clear plan. We need to understand that there is a plan in place and that

we can contribute to that plan. In other countries, there has been a clear way forward, and we need that in order for us to invest as suppliers, and to be able to train and provide the resources required.

Q137 Chair: Mr Crossfield, you spoke about problems with the approval process in this country. Could you tell us a little more about that?

Nick Crossfield: If we look at the legacy products, typically we see product approval cycles in this country that extend to six or seven years. That may be appropriate for some of the fixed asset infrastructure-based products that we have been installing and deploying on the network to date. The issue for us in moving forward to a much more technology-dominated world is that the development and upgrade cycles for these products are so much shorter. If you look at the next generation of signalling, it is almost moving to a software-based environment, in terms of the product development environment you are working in. The upgrade cycles on these things are 18 months.

If we do not address the product approval and engineering cycles, we will find ourselves in the position of implementing and physically installing products and technologies that are not the latest generation of technology you would want to employ. It is a cultural problem. It is not constrained to any one particular stakeholder in the industry. I am not just referring to the customer; I am referring to the regulatory bodies that sit around the customer and in the industry. I believe it is an attitudinal problem.

Q138 Chair: Are there any signs of that changing?

Nick Crossfield: I would say there are signs that there is a desire and an intent to change.

Chair: That sounds very vague.

Nick Crossfield: Do I see physical evidence of a change? Not right now. As Paul said, one of the biggest impediments to us is not having a clear, visible and stable plan going forward. While we are debating some of these larger issues around the industry, it is going to be very difficult to consolidate around a stable plan.

Q139 Chair: What should change in Network Rail to give more confidence that it can deliver the digital railway?

Paul Copeland: Happily, we have seen stage one. David Waboso has been appointed to lead the digital railway. From my point of view, I see that as the first step. David has experience of dealing with this technology from London Underground. In many ways the technology is not new; it has existed within the metro environment for a number of years, so I believe that will be a step forward.

Q140 Chair: Are there any other comments about Network Rail specifically?

Alistair McPhee: I would agree with what Paul says and build on what Nick said about approvals. I applaud the whole idea of having a digital railway organisation. I think that is good. In the past there was too much focus on maintaining the operational railway and not enough time spent thinking about what the future should be. There are many other good things coming. Nicola Shaw's recommendations about the end customer's voice being

heard much more, and of course the routes, are going to be an important facet. We have talked about new technologies and about the complexities of introducing them in other countries. It is really crucial that we work together in coming up with an aligned plan.

Q141 Chair: I am asking what Network Rail needs to do differently to deliver that.
Alistair McPhee: They have to embrace the supply chain and work on how we can do this together, and how we would bring in all the expertise that each of the companies has to come up with a long-term migration plan with the stability that everybody needs.

Network Rail need also to consider this. They tend to be focused on line-by-line upgrades, or control period by control period. If we are going to transform the railway, which I believe is the vision we have, we need to do that in a different way. We need to think again about how we implement that activity in the UK. Thales and Siemens have worked very closely together on the high-speed lines in Spain. Thales and Alstom have worked together in Denmark on their implementation of ETCS. That different approach, thinking about a route or regional approach to getting on with solving the problem, would make quite a difference.

Q142 Iain Stewart: Following on from that and from Mr Crossfield's comment about increasing the upgrade frequency and setting out what the long-term vision is for digital railway, is there a risk that rather than settling for level 2 ETCS now, which requires significant lineside equipment investment at a time when there is competition for investment resources, although the money may not be wasted, there would be a more immediate capacity gain initially from a traffic management system while level 3 ETCS is developed? Which of the two approaches would be better, do you think?
Nick Crossfield: I would argue that it is valid to go for level 2. Traffic management certainly brings benefits in terms of the efficiency of the system and management of disruption, which does and will bring some capacity improvement. I would argue that a traffic management solution would deliver what I would call an incremental improvement in capacity. Level 2 ETCS, in conjunction with traffic management, brings what I would call a structural increase in capacity, because level 2 allows us to reduce the size of the block area, effectively, and to deliver a step change in capacity on the network.

I would also argue that delivering and deploying level 2 ETCS is not wasted effort. Level 3 is coming and will come, but an upgradable level 2 system provides us with the most sensible route to level 3. The other point about level 3 is that there is no hesitancy or unwillingness to engage in a dialogue about, or indeed in the implementation of, level 2 here in the UK. It goes back to some of the points that have been raised—if we could have clarity on the forward plan and what the forward trajectory looks like, level 3 could be delivered in a viable timescale.

Alistair McPhee: I would echo pretty much everything that Nick said. Independent studies have shown that level 2 with no signals—that is the key thing—which is tied into the roll-out of the trains themselves, offers something like a 38% uplift in capacity on a conventional main line. Level 2 without signals on a high-speed line offers something like a 50% improvement in capacity. The concept of going from level 2 to level 3 is not a huge leap. I agree that the pragmatic approach is level 2 but without signals, and looking at how you do that on a route and a regional basis. There are systems running in the Gotthard tunnel in Switzerland, where trains go at up to 250 kph 180 seconds apart. That is with

level 2 systems, so what you can do is actually pretty impressive. We can see how that can be done.

I slightly differ with regard to traffic management. I believe that traffic management should go ahead sooner rather than later. I do not think it has to be linked to ETCS. We did a study with the Centre for London looking at the south central area of London and what a traffic management system alone would do. We estimated a 21% reduction in primary and secondary delays in the south central area with the application of a traffic management system. You can get that benefit quickly and cheaper, and we would suggest that is important. We looked at other countries. Germany has done just that—it has completely put traffic management across the whole country. That is 39,000 train movements per day. They are using traffic management with, in the main, existing signalling systems. Others, like Austria, have fully integrated it into their ETCS systems. I would say level 2 without signals, then level 3, and do not link traffic management to ETCS. I think that holds us back.

Q143 Iain Stewart: I am glad you mentioned that, because in your written evidence you said that the UK was an ideal country for the two systems to be decoupled. To go back to my original question, I am still trying to get clear in my mind whether, given the heavy capital investment required, it is better to do a TMS solution now, which could be introduced relatively quickly, while development of level 3 is accelerated, and then we could potentially save a considerable capital sum in introducing the system.

Alistair McPhee: My personal view is that we should proceed with traffic management. We are talking about aligned plans and being able to do this sensibly and at the lowest cost. You would need to align it with other projects that are happening, such as another signalling project. That is crucial, because it is not easy to plan; it is a really complex jigsaw, so you have to plan it well. I would go ahead without traffic management. If you were rolling out ETCS, I would not stop and wait for level 3. I agree with Nick that we should proceed with that as well. Clearly, if you are going forward with a level 2 solution, you would probably add traffic management. For instance, in the south central area of London, as I mentioned, we could see the benefits of traffic management quite quickly. It is in the planning and how all the pieces come together.

Q144 Karl McCartney: You represent probably three of the biggest operators in the sector. In your opening remarks you had a whinge about the client—maybe a gentle whinge. What do you think it is like for smaller operators than you, who might have better expertise than you, to secure the contracts you may be after?

Alistair McPhee: Hopefully, we are not whingeing. We are recognising the challenges that are faced in making these decisions, and making sure that the plans are robust and can be delivered. We are doing that together with the supply chain, so it is not a whinge but a request to try to be part of that, to make sure that we have the best outcome.

As regards small to medium-sized enterprises, which may be what you are getting at, we have certainly looked at using smaller companies to work with us. We are doing various pieces of R and D in and around other aspects of the digital railway. The small to medium enterprise comes to the fore when you are looking at things like passenger information and providing that type of data. I guess it is horses for courses in that sense, and we are working with small companies as well.

Q145 Karl McCartney: My question relates to the fact that you have fiscal might through your size. My concern, and I imagine that of most of my colleagues on this Committee, is that we want the best safety aspects and the best value for money for taxpayers. Do you think it is an open enough area of the sector, or does your fiscal might mean that you crowd out anybody else?

Paul Copeland: All three of us spend large amounts of money on research and development, which may preclude some much smaller companies from being involved in the higher-level, high-tech nature of the business, but at the level below that there are many parts of our business where we are indeed utilising SMEs. At our manufacturing base in Chippenham, we use a lot of the supply chain around that area and across the UK.

Nick Crossfield: My view is very similar to Paul's. We spend a significant amount on R and D. We have an extensive supply chain, and a significant part of that is made up of small specialist boutiques and SMEs. I do not think that what we do precludes or prevents those organisations from obtaining a position in those markets. Indeed, as I said, going into the brave new world, where the approach will be completely different, there will certainly be smaller- sized companies that are much better placed than we are to handle some of the specialised aspects. The key for us is to identify the organisations that should and could be part of that supply chain going forward.

Q146 Graham Stringer: Some of them want to compete with you; it is not that they want to work for you. Do you think there are viable small companies out there? They claim that they are being kept out of the market by you and Network Rail.

Paul Copeland: I don't know how they can claim they are being kept out of the market. The market is open.

Q147 Graham Stringer: Let me ask the question in a different way. Do you believe there are small and medium-sized companies that are capable of competing with you?

Paul Copeland: I guess it depends in what elements of the signalling market they are competing.

Alistair McPhee: I am trying to understand what type of organisations we are discussing. If it is about specific elements of the technology, it is hard for us to answer absolutely, other than telling you how much money we spend as organisations in developing the technology. Certainly in our organisation, we tend to do it only in one place in the world. We do not tend to do it in many places, because it is prohibitively expensive to create that technology. Those are the facts for our organisation.

I genuinely believe in the digital railway and digital data-driven systems, which is where we are going. We may be focusing on the signalling systems, but the digital railway is an awful lot more than just the signalling system. That is really important. It is all about improving performance, capacity and customer experience, and that is where I readily imagine small to medium-sized enterprises playing a part.

Nick Crossfield: That is a good point. What we are talking about in the next generation is a complete system. Train control is one part of it. There is passenger information, timetabling information and pricing information, particularly if they go to demand-

capacity planning models. There are organisations out there that are far better at doing that than we would be. The choice for us is whether we choose to go into that market or provide it through acquisition or organic growth. Given the priorities that we probably all have, I think we have enough of a core focus in terms of just generating the underlying technology.

Alistair McPhee: Just to reinforce my point, I can think of two examples in my own company. For instance, the information that drives the national rail inquiry system is a piece of software that Thales developed, but that information is available to anybody to use. That is a way we can imagine the future, because we are probably not the best people to bring that directly to the customer in different ways.

We work for the Highways England agency, where we are required to provide all our information free as well. People produce apps, websites and the like for the benefit of the customer. The use and exploitation of that data will be a key part of the digital railway in the future. It is important that the data should be freely available for people to make use of.

Q148 Graham Stringer: Do you think it would have to be a large company, as you are, dealing with the software in the signalling systems?

Alistair McPhee: I have worked for two companies in the signalling world. Given the significant investment and the risk and importance of this, it is hard to imagine otherwise. I am not saying it is impossible, but I do not think it would be something that you would jump into lightly.

Q149 Chair: What challenges are posed by ensuring compatibility between lineside and on-train ETCS versions as lineside technology is upgraded? Maybe there aren't any.

Paul Copeland: I am not sure there are.

Alistair McPhee: There is a standard. The whole point of ETCS is that it has a standard air gap between trackside and train-borne. There are no specific issues there. The issues become more interesting—the on-board computer on the train is set by the standards, but when you get trackside, you get country variations. That is when it becomes a little bit more interesting, if you like, in adapting the trackside part of the product to how the railway is operationally used in the country that you are discussing.

Q150 Chair: Network Rail works in control periods for funding. Does that present a problem in the sort of work we are talking about?

Paul Copeland: It certainly does in terms of a large-scale roll-out of something such as ETCS. I do not believe that a five-year control period is long enough. If we have a 20 or 25-year programme to roll out ETCS, it needs to be a programme to allow companies like ourselves to invest in the product, and in training and developing the people required. The cyclical nature of the control periods has meant that the signalling industry has suffered in the past from feast and famine, and that has led to an increase in costs, and certainly to losing skilled people from the industry—perhaps to other countries. As I said earlier, a long-term plan is the way forward.

Q151 Chair: How long is long-term?
Paul Copeland: For the period of the ETCS programme.

Nick Crossfield: They talk about periods. The current period is 25 years. They talk about digital railway being a programme that will be 25 years in its duration, whatever that means. Paul is exactly right. The five-year cycle time is difficult for us, because in some of the technology investments we have to make, the investment return periods go beyond that. The point that Paul makes about feast and famine within the current control period regime is very valid. Key to us is consistency. It is about knowing with a fair degree of stability that what we are looking at in terms of projected investment spend is repeatable and stable, and that the priorities will remain consistent for that period of time.

Each of us is making reasonably significant investments, both in the development of technology and, more importantly, in the development of people, because it is a new set of different skills. Each of us is making significant capital investments in training and development centres in the UK. You are developing an academy, Paul, and we are just launching an academy in Widnes. Those investments are on the back of what we believe to be a long-term commitment to the delivery of this technology.

Q152 Chair: Will the plans, as they are now, deliver the stability that is needed for people to invest?
Nick Crossfield: It is not just the plans. The other question is how the plans are going to be financed. There is a conversation around the plan, but there is also a conversation around how the plan will be financed. I would argue that in the current environment, and projecting forward, the Government are under increasing pressure to find alternative sources of investment to cover some of the requirements that are going to go into infrastructure in the UK. It is not just a question of whether it is a five-year or 15-year plan. It is a question of what kind of plan it is and how it is going to be financed. We have a role to play, and we can bring financing into that debate; for example, I have no problems with having a conversation with DFT or Network Rail about whether we could partially finance the roll-out of digital railways. Yes, we could, but we would be talking about a very different mechanism.

Q153 Chair: When you say "we", do you mean the industry?
Nick Crossfield: Private companies.

Q154 Chair: How could that be done, and how do you see it operating?
Nick Crossfield: It goes back to one of the questions we talked about earlier: what should we do in order to make sure this happens? Do we say, "Well, look, digital railway technologies, behaviours and skillsets are so different from what we have done in the last 60 years that, rather than leave it to be horrendous work but contaminated by history, we should incubate it and say this is a completely new and different way of doing things—they are completely new and different technologies"? Do we say, "Actually, for the implementation and deployment of these in the early years, we should incubate them from the rest of the infrastructure"? Do we take it out of that legacy environment and say, "The engineering is different, the people are different, the delivery model is different and the product life cycle is different"? Could you take it out, incubate it, have it there as an

incubator model and say, "Do you know what—we will have some private financing to fund that"?

Q155 Chair: You are suggesting that it could be separated from the whole control period way of looking at things.

Nick Crossfield: It goes back to Paul's point. If we believe we need something like a 25 or 30-year committed, consistent plan that is fully financed, we could remove it from that environment and say, "Actually, we will take it out of that cyclical five-year environment. We will set it up as this; we'll finance it in a different way—separate financing. We'll take private financing as part of that, run it and use that incubator model to deliver and deploy it."

Q156 Chair: Would anyone else like to comment on that?

Alistair McPhee: I understand what Nick is saying. The only cautionary note I would raise is about somehow distancing it from the legacy railway. The challenge in this is how to have a migration plan that works for the benefit of our customers. I do not think you can isolate the new world from the old world. Inevitably, they have to cross over at some point, so that would need very careful planning. I appreciate what Nick is saying about the need to tackle the new technology differently. People are crucial to this. We do nothing on the railway without the right competent people. The data-enabled railway is going to require different skillsets.

Q157 Chair: Are enough skills available to go ahead with the work? Is that an issue as well?

Alistair McPhee: Nick talked about his training programme, and Paul and Thales are doing something as well. Five per cent. of our workforce are apprentices and graduates, so we can bring in resources. I guess all we need is to be able to plan, and we need some stability around the plan. It goes back to your point about whether the five-year control period is enough. It is not really. Looking at what other countries are doing in terms of transformation of the railway, they tend to look forward a lot longer than that and commit to it.

Q158 Chair: Are you saying that the skills are available? Do we have enough skills?

Alistair McPhee: I do not make light of it. Skills are available. We can flex and we can work, but we need the ability to plan for that.

Q159 Graham Stringer: If you were to invest yourself and provide finance, surely the real point is whether or not the risk could be transferred. Do you have a model of how the risk could be transferred?

Let me expand on the question a little bit. The experience of new technology is that the introduction of the automatic train warning systems carried accusations of gold-plating. There was a much slower system in the Manchester Metrolink system and the software took a long time to get working. There are risks in these systems. If you were going to finance it, how would you transfer that risk?

Nick Crossfield: I do not have a specific answer to that question. I am just saying that we are well placed to develop, deliver, implement and run these systems.

Q160 Graham Stringer: But you are in a better place than bank or Government funding if you take the risk, aren't you?

Nick Crossfield: We could possibly look at that.

Alistair McPhee: We all understand that. Classically, if you take the on-board train fitment for ETCS, that is a clear example of where a supplier can take the risk for the performance and availability of the product. That can be done. It is not entirely straightforward, but I can think of good examples where that risk could be transferred. Your point is that it is about more than just providing the funding; it is about taking the risk. The performance and reliability of the railway are the sort of things that are important. You can imagine some form of risk transfer as a result of that, but it cannot just be done line by line. That is the problem. It needs to be a bigger game plan. In fact, if you look at what we are doing elsewhere in the world, we will be taking 30-year maintenance responsibility and the like for some of the equipment we are installing. That comes with a lot of risk transfer.

Paul Copeland: The private sector can take the risk of the availability of the system. That is really what is required. The system has to be available to provide the train paths. Why wouldn't that risk be taken by the private sector if they were providing the system?

Nick Crossfield: You would have control of the asset base. You would have control of the replacement cycles in the asset base. You would have responsibility for maintenance of that asset base. These are all things that can be used to mitigate and manage the risk profile of that asset base, but it is a very different model from what goes on today. At the moment, we provide hardware, software and delivery services in return for a capital sum. In that new world, you are into the realms of getting paid for performance.

Alistair McPhee: Another example from defence is that Thales and NATS are running the air traffic control service for the military and, in parallel, upgrading all the radars in the air traffic management systems. We obviously take all the risks associated with that, in ensuring that the service is maintained for the armed forces nationally, and obviously the performance of those systems. There are examples of how this has been done. It has been done in other sectors, typically, and not often in the transport sector.

Nick Crossfield: In terms of the asset base itself, and looking forward at the expenditure curves, it actually takes out some of the volatility for us. Let us say that we are responsible for providing an available and reliable service that can be specified. Being responsible for the replacement and maintenance of that asset base allows us to operate without some of the volatility that we see in the supply chain today.

Q161 Graham Stringer: You almost said you do not have an answer to this, but I will ask the question anyway. What sort of estimate of saving to the public sector would you give us for that model over the current model?

Nick Crossfield: I could not say.

Graham Stringer: I guessed that would be the answer.

Q162 Chair: Mr Crossfield, could you give an assessment?

Nick Crossfield: I could not give a specific answer to that question. What I could say is that I have no doubt that there would be benefit associated with moving to that model. As I said, it reduces the cost of managing that business for organisations like ourselves. I have no doubt that that would flow through ultimately into benefits for the customers and the fare-paying passengers.

Q163 Chair: Would anyone else like to give an assessment of the benefit to the public sector?

Paul Copeland: No, I think that would be impossible.

Q164 Chair: What was the impact on the industry of the cancellation of the national TMS programme?

Nick Crossfield: Loss of confidence.

Alistair McPhee: And loss of quicker capability—and difficulty in keeping people. What is key in our industry is the continuity of people once we have worked on some of these programmes. For instance, we are upgrading the Underground. We have gone straight from the Jubilee and the Northern Line into the 4LM contract. The ability to mobilise quickly and understand and work collaboratively with your customer cannot be undervalued. What worries us if we do not continue with that work just now is what we will do with the people we have brought up that competence curve. As I say, we should never undervalue the importance of being able to have continuity of experience going from one project to the next. It has stopped us investing. It has certainly stopped my company investing, because we saw a bigger programme, we bid for it and then it stopped.

Q165 Chair: Does anybody want to add anything to that?

Nick Crossfield: The other point I would add is that all of us compete in our organisations for investment from our parent boards to come to the UK. We all sit in international businesses, so we are competing with our German and French colleagues for inward investment. The TMS decision makes the UK potentially less attractive. When a global board is thinking, "I have X and a half billion to deploy this year in structured investments in global regions around the world," decisions like that just make it less attractive. It is hugely important for us. Forgive me, I do not know the exact statistics, but I would say that the UK is either the No. 1 or the No. 2 market in Europe for infrastructure investment in terms of size. It is incredibly important that the big decisions are taken and adhered to. In getting that capital investment into the UK, jobs, training centres, factories and production capacity in the UK really matter.

Chair: Thank you very much, gentlemen.

Examination of Witnesses

Witnesses: **Andy Course**, Chief Operating Officer, Eversholt Rail, **Malcolm Brown**, Chief Executive, Angel Trains, and **Tim Gilbert**, Engineering Director, Porterbrook Leasing, gave evidence.

Q166 Chair: Good afternoon, and welcome to the Transport Select Committee. Could you give us your name and organisation, please?

Andy Course: I am Andy Course, the chief operating officer of Eversholt Rail Group.

Malcolm Brown: I am Malcolm Brown, chief executive officer of Angel Trains.

Tim Gilbert: I am Tim Gilbert, the engineering director for Porterbrook Leasing.

Q167 Chair: Could you tell us where the rolling stock owning companies fit in the overall rail technology improvement strategy?

Malcolm Brown: Of course. First of all, thank you very much for the opportunity to give the Committee our evidence. Overall, we support the industry's plans for the digital railway and obviously the benefits that will come from ETCS for passengers, taxpayers and the UK supply chain. Over the last few months and years, we have welcomed the engagement we have had from Network Rail in drawing us into the development of a holistic overall plan and bringing in the ROSCOs.

To try to drive the fitment of ETCS on to the trains, of which we own circa 13,500 in the UK—we are the largest owners of passenger vehicles in the UK—we have joined together in a national joint ROSCO project, the objective of which is for the three of us to work together to ensure that we reduce initial cost and whole-life cost, and to try to gain simplicity and avoid duplication of both cost and technical development. We are working together to look to develop first-in-class roll-out across different types of fleets, and to look at the overall plan for the long-term roll-out of ERTMS and consequently for us ETCS.

Q168 Chair: Who has final control of when technology upgrades will be fitted to rolling stock? Who decides that?

Malcolm Brown: Ultimately, we are part of a holistic plan right across the railway, and quite rightly so. We believe that Network Rail is at the centre of the plan to develop system-wide answers, so ultimately it should be Network Rail.

Q169 Chair: Does anybody want to add anything?

Tim Gilbert: This really is an industry plan, and it must be all the industry players coming together. It is not for Network Rail on their own, or for us on our own, to say, "This is when this will be fitted." It must be an industry decision as to when the most appropriate time is for fitting ETCS to the trains.

Q170 Chair: What is the cost of your investment and your involvement to the Government or indeed to the public?

Malcolm Brown: We estimate that to fit ETCS over the next 10 years is circa £500 million. That is for the 10 years that we can see at this point and at this stage of the plan. Of course, with the plan changing and developing, that is obviously subject to change.

Q171 Chair: RMT told us that train maintainers experienced deskilling in their work when ETCS was introduced. Do you agree with that?

Malcolm Brown: That is clearly a question directly for the train maintainers. However, sitting here as a train owner, and owning the asset, I struggle to see how that could be. ETCS is an additional system on the train rather than a replacement system. De facto it must mean actually upskilling, because we are now going to have a new system on the train that we need to maintain and develop. It is not replacing any other system, so without knowing the detail I struggle to see how that deskills.

Q172 Chair: Are there any other views on that?

Andy Course: I completely agree with Malcolm. I can only see it as additive. If anything, if all the benefits of ETCS and ERTMS come about, trains will be doing more, and therefore the need to maintain them will be greater. I struggle with deskilling. I think the capacity of maintenance will be matched by growing demand.

Q173 Chair: Will the current rate of cab fitment achieve Network Rail's proposed 25-year timeframe?

Tim Gilbert: It depends on the plan. At the moment we do not have an agreed industry plan. Network Rail has put forward a national deployment plan called version 20 that would give us a 25-year plan for rolling out ETCS, but it is still going through consultation. Until we understand whether it is a feasible and deliverable plan, it is difficult to say whether that is the case or not. However, we anticipate from what we have done so far that we would be able to keep ahead of the curve, as it were, and would be able to fit the trains prior to the infrastructure, and not delay things.

Q174 Iain Stewart: Does the installation of ETCS equipment on trains make a material difference to the likely replacement cycle of rolling stock? Would it make more economic sense to bring forward the introduction of new stock rather than invest in retrofitting old stock?

Andy Course: The answer is that it depends. Timing is a big factor. Clearly the earlier the better. There is also a sequencing point. When we take trains apart for all sorts of other reasons—such as fitting passenger information systems or passenger counting systems—it might be sensible at the same time to fit ETCS equipment. There are clearly challenges in putting it on to a normal train. There are challenges in terms of finding the space envelope—where can we put the equipment—as there might be on a new train, but there are also challenges in interfacing to the old train equipment. If you can think about all those things earlier and fit them, clearly the commercial equation weighs off better in the longer term. What we certainly do not want to do as a collective is to fit the kit unnecessarily. It goes back to the point about a clear and credible plan. We can be agile enough to fit the train equipment in time for the lineside equipment, as long as there is a degree of certainty. It takes some lead time to get the kit on board.

Q175 Iain Stewart: As a supplementary, are you confident that Network Rail is developing its strategy, due for application in the autumn, and is factoring the rolling stock cycle into that plan? Does it make a difference, as I asked the last panel, whether it is level 2 or level 3?

Andy Course: We are certainly feeding in what our planning assumptions might be. We need sensible procurement timelines, sensible design timelines and sensible first fitting. There is certainly a challenge in terms of fleet fit to make the trains available for the equipment to be fitted and to run an operational railway at the same time. Those assumptions are shared from the national joint ROSCO project team to Network Rail to help them form that plan.

Q176 Chair: Does the programme of cab fitment create an opportunity to replace older rolling stock?

Malcolm Brown: As with the question we had before, it very much depends on whether there is an economic case to retrofit in existing rolling stock. There has to be a balance between the cost of new rolling stock and the retrofitting of old rolling stock. There is a timing issue and then there is a route issue. As both Tim and Andy said, this is very much a holistic project across the whole of the industry. We are now starting to see the whole of the industry acting as one and feeding in. There is an iterative process in this, because what may suit one part may not suit another. It has to go through that process to strike a balance.

Q177 Chair: Does the control period structure create disincentives for long-term investment in ETCS technology?

Malcolm Brown: ETCS is a long-term project right across the industry. As such, a control period that is about our budget profile, which is for five years, does not naturally sit within something that is going to have a 25-year life. That is quite clear, and you can see it. However, having listened to previous evidence, we must take cognisance of what is going on within that control period, because we have such an inter-relationship with the hard infrastructure, as we have with fitting ETCS. We cannot go off in splendid isolation and try to deploy ERTMS across the whole network without taking some cognisance of what is going on in the day-to-day railway. At the end of the day, we are there to serve the passengers. We are there to carry passengers and get them where they need to be, not just simply to fit a system.

Q178 Chair: What is the lead time to fit ETCS equipment?

Malcolm Brown: It varies at this point in time. We are just doing our first in class. The objective of our first in class is to gauge how long it takes. I do not know whether Tim has anything to add.

Tim Gilbert: We have to build up a sequence. We have to do a procurement exercise first, which can take anything up to a year. Then there will be a contract for a first in class fitment, which is a design and then fitting to the first in class of the train. That could be a period of 18 months or so. Then there will be a period of mobilisation and then a period of

fleet fit. Of course, we would like some contingency before the signals are taken away. As you can see, it is quite a long period.

Q179 Chair: How long are we talking about?

Tim Gilbert: Three and a half to four years, or something like that. It is that sort of timescale.

Andy Course: That is from the very first get-go. We are a third of the way through the fitting of the class 365, an Eversholt fleet, which is the first of the programme. We are six months into an 18-month piece of work. You would certainly anticipate it not taking as long for the second and third class. The idea is to try to standardise it as much as we can to make it easier in the slightly longer term. The big risk is being able to test it within UK infrastructure at the right time to then give confidence that we can roll out that standard approach across all the other fleets. It will take longer earlier, but only to spend less time doing it later.

Malcolm Brown: That is the point of the three of us working together—that we learn from one another and reduce the lead times, the costs and the complexity. That is the whole objective.

Q180 Mary Glindon: Will the result of the EU referendum have implications for the ability of rolling stock owning companies to upgrade their fleets?

Malcolm Brown: There is obviously movement in the exchange rate, which we have seen recently. However, other than that, we have looked at this and considered it, and we do not see any immediate material risk just now.

Q181 Martin Vickers: Could you clarify something for me? Listening to your evidence and that of the previous witnesses, I am not entirely sure that you are satisfied that there is an overall comprehensive plan that both Network Rail and DFT are signed up to and working on in collaboration with the industry, both in terms of the finance and whether or not this is just one part of a whole that is not coming together.

Malcolm Brown: Network Rail has put out to consultation an accelerated plan. As you said, they are expecting to publish it in September. We are contributing to that plan. We have the initial step, which is the east coast, and we expect the long-term overall plan to be out in September.

Tim Gilbert: The plan is still under development.

Q182 Martin Vickers: You do not sound particularly confident that it is coming together, though, and that once the consultation is finished there will be both adequate resources and skills.

Malcolm Brown: Your challenge is fair. The point we are trying to make is that we are now inputting to that plan. I do not think any of us feel that we have not had the opportunity frankly to get in and give our view and push that across, but, of course, we can only see our part of it. Until we actually see the whole plan coalescing with everybody's point of view—manufacturers, supply base, train operators and so on—it is very hard for

us, and would be inappropriate for us, to give you a view on that at this point. Certainly we feel engaged. We are involved. We have Network Rail engaged in the first in class and various other items. I can only say that from our perspective we are getting a high level of engagement.

Andy Course: Forgive me, I have only been in this for three years, but certainly comparing three years ago with today, there is a much bigger picture and a much bigger play now. With my optimistic eyes, I have a great deal of sympathy for those who are trying to bring a big plan together, but I think a bigger prize is now recognised. It is not just about replacing old signals. We have suffered in the past from a changing plan, where we had old signal refurbishment or replacement. The plan has changed a lot, and of course we react to that, to get ETCS fitted. I think there is a bigger prize to be had, and with a proper top-down plan and a bit more confidence I remain optimistic as compared with three years ago.

Q183 Chair: There has been significant reduction in the ETCS cab fitment fund. What impact has that had on passenger rolling stock?

Tim Gilbert: Prior to that reduction we had a sum of money and we were intending to do 10 first-in-class fitments with that sum of money. That would have been fine for all the rolling stock fleets on the east coast main line south of Doncaster, which would then have been the first main line to be fitted. With the reduction, we can only do five first-in-class fleets, and that will take us to south of Peterborough, but that is okay in terms of the timescale for the east coast main line. However, the gentleman over there mentioned the plan, and there is not sufficient funding in CP5 to deliver the 25-year plan that is currently being consulted on by Network Rail.

Q184 Chair: Does anyone have anything to add on that?

Malcolm Brown: Only to say that we have raised that issue with Network Rail directly.

Chair: Thank you very much, gentlemen, for coming along.