

Guidance: Bioaerosol monitoring at regulated facilities – use of M9: RPS 209

This regulatory position statement (RPS) applies to:

- operators with a bespoke biowaste environmental permit
 - operators with a bespoke biowaste environmental permit who want to vary (change) their permit
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Press release: CMA provisionally finds Fox/Sky deal not in the public interest

Following a referral from the Secretary of State for Digital, Culture, Media and Sport, the Competition and Markets Authority (CMA) has been investigating the deal on two grounds: media plurality and commitment to broadcasting standards.

The CMA has provisionally found that Fox taking full control of Sky is not in the public interest due to media plurality concerns, but not because of a lack of a genuine commitment to meeting broadcasting standards in the UK.

The media plurality concerns identified mean that, overall, the CMA provisionally concludes that the proposed transaction is not in the public interest.

Further detail is set out below.

Media Plurality

Media plurality goes to the heart of the UK's democratic process and as such is given protection in law.

The CMA has provisionally found that if the deal went ahead, as currently proposed, it is likely to operate against the public interest. It would lead to the Murdoch Family Trust (MFT), which controls Fox and News Corporation (News Corp), increasing its control over Sky, so that it would have too much control over news providers in the UK across all media platforms (TV, Radio, Online and Newspapers), and therefore too much influence over public opinion and the political agenda.

The MFT's news outlets are watched, read or heard by nearly a third of the UK's population, and have a combined share of the public's news consumption that is significantly greater than all other news providers, except the BBC and ITN.

Due to its control of News Corp, the Murdoch family already has significant influence over public opinion and full ownership of Sky by Fox would strengthen this even further.

While there are a range of other news outlets serving UK audiences, the CMA has provisionally found that they would not be sufficient to moderate or mitigate the increased influence of the MFT if the deal went ahead.

Broadcasting standards

The CMA's investigation also examined a range of evidence to understand whether Fox, Sky and the MFT have a genuine commitment to broadcasting standards in the UK. Here, it has provisionally found that Fox taking full control of Sky is not likely to operate against the public interest.

Its investigation has provisionally concluded that, overall, Fox has a genuine commitment to broadcasting standards in the UK. It is an established broadcaster here, having held licences for over 20 years. The CMA took account of the policies and procedures Fox has in place to ensure broadcasting standards are met.

It found that while there were issues with the compliance arrangements at Fox News when it was broadcasting its unedited simulcast international feed into the UK, this did not outweigh the detailed and effective policies and procedures that Fox has in place in relation to its UK focused channels.

The CMA also provisionally found that Sky has a good record in this regard, consistently complying with broadcasting regulation. It also has comprehensive and effective policies and procedures in place to ensure broadcasting standards are met.

Its investigation took account of the fact that before 2012 there were serious shortcomings at the MFT controlled newspaper the News of the World, which had failed to comply with both press standards and the law.

However, News Corp has subsequently put in place processes and procedures to address these. The CMA has provisionally found that, since then, its newspapers' record of compliance with press standards does not raise concerns.

The investigation also considered the recent allegations of sexual harassment against Fox News employees in the United States.

While these are serious, the CMA has provisionally found that these are not directly related to the attainment of broadcasting standards and do not call into question Fox's or the MFT's commitment to broadcasting standards in the UK.

Anne Lambert, Chair of the independent investigation Group, said:

Media plurality goes to the heart of our democratic process. It is very important that no group or individual should have too much control of our news media or too much power to affect the political agenda.

We have provisionally found that if the Fox/Sky merger went ahead as proposed, it would be against the public interest. It would result in the Murdoch family having too much control over news providers in the UK, and too much influence over public opinion and the political agenda.

Our in-depth investigation also considered whether the deal would be against the public interest regarding broadcasting standards. Due to their existing track record in the UK, and the range of policies and procedures the companies involved have in place to ensure broadcasting standards are met, we did not find public interest concerns in this regard.

Next steps

The CMA has now set out a series of potential options for addressing these problems identified in its [public remedies notice](#).

It also now welcomes responses from interested parties to its [provisional decision](#) and proposed [possible remedies](#), including in view of the announcement by Fox on 14 December 2017 that it had agreed the sale of certain assets, including its interests in Sky, to The Walt Disney Company.

These will be carefully considered before the CMA's report is finalised and provided to the Secretary of State for Digital, Culture, Media and Sport by 1 May 2018. He will then make the final decision on the proposed deal.

Notes to editors

1. The CMA is the UK's primary competition and consumer authority. It is an independent non-ministerial government department with responsibility for carrying out investigations into mergers, markets and the regulated industries and enforcing competition and consumer law.
2. On 20 September 2017 the Secretary of State for Digital, Culture, Media and Sport referred the proposed deal to the CMA for investigation under the Enterprise Act 2002 (Protection of Legitimate Interests) Order 2003. The CMA appointed an inquiry group – formed of independent panel members with a variety of backgrounds – to investigate, decide and report on the question set out in the reference.

3. The inquiry group has until 1 May 2018 to provide the Secretary of State its final report. The final decision regarding the questions addressed in the CMA's report will be made by the Secretary of State following receipt of the report.
4. There is now a 3-week consultation period on the provisional findings, during which time anyone may make submissions to the CMA. Submissions should be made to FoxSky.Submissions@cma.gov.uk and received by Tuesday 13 February 2018. There is a 2-week consultation period on the notice of possible remedies. Submissions on this should be made to FoxSky.Submissions@cma.gov.uk and received by Tuesday 6 February 2018.
5. The CMA's [case page](#) sets out an explanation about its process, including the steps followed, the submissions received, hearings held, documents published, and upcoming deadlines.
6. Fox is a Delaware corporation, listed on the NASDAQ Global Select Market. It is a global media company and currently holds approximately a 39% stake in Sky. Sky is a public company, listed on the London Stock Exchange. Like Fox, News Corp is a Delaware corporation listed on the NASDAQ Global Select Market. News Corp owns 100% of News UK and Ireland Limited (News UK was previously known as News International). Its portfolio includes The Times, The Sunday Times, The Sun and The Sun on Sunday, all their respective websites and a number of UK radio networks including TalkSport and Radio UK.
7. The Murdoch Family trust (MFT) is the largest shareholder of Fox and News Corp, holding approximately 39% of shares in each.
8. Fox announced on 14 December 2017 it had agreed the sale to Disney of certain assets including its interests in Sky. It also announced it was continuing its proposed acquisition of the shares in Sky it does not own. Should both acquisitions be completed successfully Disney would assume full ownership of Sky, including Sky News. The sale to Disney will itself be subject to regulatory scrutiny and it is unlikely to be completed until after the CMA inquiry has concluded. It is therefore uncertain whether, when or how that transaction will be completed. As such, the CMA's analysis of the Fox/Sky transaction cannot take it into account in its assessment of the transaction but implications of the Disney transaction in relation to remedies is considered in the notice of possible remedies.

Media queries should be sent to: press@cma.gsi.gov.uk or journalists can call 020 3738 6191 or 07774 134814.

[Press release: Foreign Secretary meeting with Secretary Tillerson](#)

Following the meeting held in London on 22 January 2018, a Foreign Office spokesperson said:

Foreign Secretary Boris Johnson hosted US Secretary of State Rex Tillerson.

During their meeting, which took place at the Foreign Secretary's official London residence in Carlton Gardens, the two ministers discussed a full range of bilateral and international issues, underscoring the strength of the UK/US relationship. Today's meeting followed on from Secretary Tillerson and Foreign Secretary Johnson's meeting in Vancouver last week.

On Iran, they reflected on recent developments and discussed the UK and US's respective views on the Iran nuclear deal. The Foreign Secretary emphasised that the UK believes the Iran nuclear deal is working, and that the UK would work closely with US, European and international partners to tackle Iran's disruptive behaviour in the region.

On Syria, the Foreign Secretary expressed his support for Secretary Tillerson's recent speech on the Syrian crisis. The Secretary of State and Foreign Secretary discussed how to move towards a political process that would lead to the end of the Asad regime.

On Yemen, they agreed on the importance of moving forward towards a political solution that would end the humanitarian suffering.

The Foreign Secretary and Secretary Tillerson will meet again in Paris tomorrow for discussions on Syria and Yemen with their European and Middle Eastern counterparts.

[Speech: UKRI Research and Innovation Infrastructure Roadmap Launch](#)

Thank you to the Royal Society for hosting us today. Speaking as a new science minister, there is nothing that reminds you of Britain's awe-inspiring history of scientific excellence like a visit to the Royal Society.

The photos of generations of distinguished fellows evoke the UK's great

tradition of research. The current fellowship is a list of global stars in discipline after discipline – a reminder that British science has a remarkable present as well as a great past. The sheaf of stats that you receive as a new minister bears this out – and I have rapidly learnt about exotic data like Field-Weighted Citation Indices – the moral of which is that when it comes to science, Britain continues to punch above its weight.

I've also learnt that our research strengths go beyond the scientific remit of the Royal Society to fields of arts, humanities and social sciences. If the watchword of principle of 21st Century innovation is STEAM – Science, Technology, Engineering, Arts and Maths – then the British research base is well positioned for success. After ten days in the job, it's hard to think that if you are going to be a science and research minister anywhere, Britain is the place.

But I'm also well aware that when it comes to research and innovation, the UK faces its fair share of challenges.

Already I have heard some clear messages from you and your scientific colleagues about areas that need more work.

- Importance of achieving a good result for science from Brexit, both in terms of European research funding and in terms of the welcome the UK offers to the world's best minds.
- Despite concerted efforts over a decade to improve business-university links, business R&D remains disappointingly low by international standards. (Some say we lack the critical mass of institutions that sit between business and research that are more common in countries like Germany or Korea.)
- A strong suspicion that we are not making the most of the country's potential when it comes to research talent. Whilst the total number of women professors are growing, HESA stats shows that in one third of universities the proportion of women professors has declined in the last five years. There are more black cleaners and porters than lecturers and professors.

And of course, at a global scale there are a different set of challenges, ones crying out for solutions grounded in technology, science and research: from climate change to how to deploy automation and AI to antimicrobial resistance.

To shape the future, we need a plan

I am of the view that if you want to shape the future, you need to do more than worry. You need to act, and for that you need a plan.

Part of having a plan involves having goals. This is why in the government's

Industrial Strategy has set out a number of grand challenges: areas of societal, global importance where we believe technology and innovation can help us solve some of the most pressing problems facing the world.

It is also why we have set out a commitment to encourage investment in R&D. In other fields, the government has set clear targets as a sign of our aspiration. We show our commitment to our country's security by spending the NATO target 2% of GDP on defence. We show our commitment to our international obligations by spending the UN aid target of 0.7% of GDP. And now, in the Industrial Strategy White Paper, we are signaling our commitment to the future of our country and the world through our goal to increase UK R&D spending to 2.4%. This is an ambitious target: an increase of two-thirds. We have begun this process with the biggest increase in public R&D funding for 40 year, ensuring that public spending on R&D will rise in every year of this parliament to around £12.5 billion in in 2021/22.

As part of this investment in R&D, I'm pleased to announce – in addition to the launch of the Infrastructure Roadmap – the allocation of £70m through the 'Accelerating innovative healthcare and medicines' challenge of the Industrial Strategy Challenge Fund. This investment from government and industry will speed up patient access to new medicines and improve treatments for our ageing society. It will also support new virtual reality projects to help patient recovery. This will see three new Advanced Therapies Treatment Centers opened across the UK in Birmingham, Newcastle and Manchester.

We will be announcing further details of the second wave of challenges within the Industrial Strategy Challenge Fund shortly. This new funding will support challenges to allow us to:

- Prosper from the energy revolution
- Transform construction and food production
- Use data improve early diagnosis of disease
- Develop the technologies and services to support a society that ages healthy
- Use technology to create the audiences of the future for our creative industries
- Pioneer technologies in Next generation services and quantum technologies

And we will continue this new approach to mission-driven innovation by launching an expression of interest for Wave 3 of the ISCF.

Openness the world

To tackle these challenges effectively, we will need to work together with the best and brightest from around the world. Science and innovation are global enterprises. Bill Joy, the founder of Sun Microsystems, famously said “no matter who you are, the smartest people mostly work for someone else”; this is true for companies, but it is also true for countries. British science is at its best when we collaborate deeply with other countries, and welcome researchers to the UK.

To this end, we are working to deepen our research and innovation ties to other countries – such as the historic agreements we have recently signed with the US and China.

It also means securing the best possible relationship with the EU after Brexit. I am deeply conscious of the importance of Horizon 2020 and future framework programmes to research in the UK and the huge benefits we have reaped from participation in programmes like the ERC. We are working hard to secure a good research and innovation agreement with the EU after Brexit, and I can confirm that I have already had cordial discussions with Commissioner Carlos Moedas, and will be sitting down with him and other EU science ministers in Bulgaria next week, as my first foreign trip in the job.

UKRI and its strategic role

Having goals is a necessary part of having a plan, but not a sufficient one. You also need to capacity to carry out the plan, and to work out how you are doing. This is where UK Research & Innovation comes into the picture.

The establishment of UKRI was, from the point of view of science and research, the central part of the reforms set out in the Higher Education and Research Act. (At this point, I must acknowledge my great debt to my predecessor in this role Jo Johnson, for stewarding this major reform through Parliament, and to discussing it with so many of you here.)

UKRI matters because it can fund research and innovation in a mindful, considered and strategic way. Because it brings together the seven Research Councils, it will be better able to bridge the gap between the sciences, social science, and arts & humanities. Because it connects Innovate UK together with the Research Councils, it will improve the links between research and innovation. The first two waves of the Industrial Strategy Challenge Fund, which is financing R&D in fields with important business applications, suggest that these links are already bearing fruit.

And by linking Research England to the research councils, it will enable us to carefully consider and better align our funding for specific research projects with the quality related research funding stream. Research England’s work with the other UK funding bodies and the Office for Students will help UKRI in its consideration of the sustainability of the research base, a joined up skills and talent pipeline and an approach to innovation which captures the strengths of each of the devolved nations.

Just as important will be UKRI's ability to make strategic funding choices. Sir John Kingman (who I was delighted to see appointed as substantive UKRI chair last week) argued that UKRI should aspire to provide a "strategic brain" for research funding, looking right across the UK landscape. This strategic brain would complement the existing processes of the research councils and Innovate UK, and would help ensure that funding opportunities were not overlooked because they fall afoul of disciplinary boundaries, and that important emerging areas are prioritized.

The infrastructure roadmap – an example of what UKRI can do

A good example of the kind of prioritization that UKRI makes possible is the Infrastructure Roadmap that we are here to initiate today, an initiative where the UK will want and need to play on a global scale. As you know far better than I do, good science and effective innovation depend not just on brainpower and funding but on the right infrastructure.

Some of this is big, imposing physical kit: from linear accelerators and data centers to research stations, Met Office super-computers and, of course, Boaty McBoatface. Some of it is rather more intangible: such as carefully-collected longitudinal data sets or institutions like the Catapult centers, which are as much about networks and know-how as they are about physical buildings.

The roadmap will survey the state of the UK's research and innovation infrastructure, and use this mapping to inform the prioritisation of future investments.

This matters. If we let our infrastructure decay, research and innovation suffer. In his superb book, "England and the Aeroplane", historian of science David Edgerton describes how a lack of appropriate wind tunnels and testbed was one of the factors that caused Britain's aerospace industry, which was at the cutting edge of technology at the end of WW2, to fall behind that of the US. But if we can invest strategically in new infrastructure, we can open up new vistas for research, especially as digital technologies are changing the way research works in discipline after discipline. An example of this is the Structural Genomics Consortium, based at the University of Oxford, is a great example of how open science has been used to spur on innovation in drug discovery. Currently funded by 13 public and private organisations, the consortium takes an open and innovative approach to intellectual property, which allows the industrial partners to collaborate and maximise the impact of the research

I hope that the Infrastructure Roadmap will be a sign of things to come from UKRI. There is huge potential for UKRI to build on the promising work that has been done by the Research Councils, Innovate UK and HEFCE in recent years to improve how we use data to understand the research base, to investigate promising areas, and to record the impact both of research itself and of the ways we fund research. There is also a great opportunity for UKRI to improve how we communicate research and its benefits to the general public, who after

all pay for what we do and have a right to know about it – especially if we want to win popular support for greater public funding of research.

This work will be led by Professor Mark Thomson, the new Executive Chair of the Science and Technology Facilities Council. I am delighted to announce Professor Thomson's appointment today; he will be a great asset to STFC, reinforcing the UK's reputation as being world-beating in this exciting and ever-evolving area of science.

Mark will take over from STFC Chief Executive Brian Bowsher at the beginning of April when UKRI comes into being. I'm sure we would all like to take the opportunity to thank Brian for his sterling work at the helm of STFC over the last year and congratulate him for his OBE in the New Year Honours.

Sir Mark and I will be speaking more about the future of UKRI in the weeks and months leading up to its formal launch on 1 April. I am hopeful that it will live up to its promise of being the most exciting research funder in the world.

Encouraging optimism, and the limits of planning

Having spoken about the importance of having a plan, I'd like to conclude with a few words of humility. One thing I know is that plans that are too rigid generally don't survive contact with reality.

The best plans are dynamic, not dictatorial, and allow room for chance and for change. The same is true when it comes to the government's vision for research and innovation.

To encourage innovation, it is not enough to increase investment and to set challenges. We also need to provide the freedom that innovators and optimists need to thrive. In the world of business, this means creating the conditions for new entrants to and competing with old established firms. It means improving access to finance for the best new businesses to scale up.

It means making sure that our regulators and the rules they make are tech-savvy, and responsive to new ways of doing things. We should draw on examples like the Human Fertilisation and Embryology Authority, where informed, proportionate regulation, devised with public consent, created the conditions where research and investment could flourish, safe from both over-zealous legislators and public backlash.

And it also means ensuring there is space for serendipity in research. As the sociologist Robert Merton pointed out over sixty years ago, major breakthroughs arise unexpectedly or obliquely. No doubt many of you will recognize this from your own research. Shatterproof glass, penicillin, cancer chemotherapy, and vulcanized rubber are just a few examples of how the most important discoveries are sometimes the most unexpected. Alongside challenge-led funding pots like the Industrial Strategy Challenge Fund, we believe it is essential to continue to fund curiosity-driven research generously. And we will continue to support a diverse funding system, which values the role of the UK's impressive research charities, and recognizes the importance of

QR funding in allowing institutions to invest in their own ideas and capabilities.

Providing freedom and encouragement for innovators and independent thinkers is essential for the future of research and for the future of the country.

Conclusion

Let me conclude by congratulating UKRI beginning their infrastructure roadmap.

Rising to Global expectations – It will be welcomed in much, if not all, of the UK's S&R community; but there are global expectations, and we are being watched carefully to see how this great new organisation works – just what will be different for those wanting to work with UK researchers and innovators that will be ensure the UK is hugely attractive to others?

As we celebrate rising R&D spend from HMG, how will UKRI balance the need to clear accountability (which suggests plenty of process and rules) with creating the space I have just referred to for creativity and invention?

Launching in April 2018, UKRI will be critical – ensuring the UK maintains its world leading position in research and innovation. It will catalyse a more strategic, agile and interdisciplinary approach to addressing global challenges and play a key role in helping the UK strengthen its competitiveness as part of the new Industrial Strategy.

If you want to shape the future, it helps to have a plan. UKRI and its infrastructure roadmap is part of that plan.

Speech: Education Secretary opens Education World Forum

Good afternoon ladies and gentlemen. How wonderful to see such a wide variety and such a large number of colleagues from around the world here at the Education World Forum – the world's coming together of ministers and policy makers from the world of education, and of course ahead of BETT that follows it – the world's largest education and technology trade show.

There is so much we can learn from each other and I want to start with thanking the people who have organised this – this will be the fifteenth that there has been – for all their work they put into it. Some of them have worked on all fifteen of those forums and have brought close to a thousand ministers from around the world to London to share their expertise and share their experiences. And the feeling that they have today, of preparing students for success in the fourth industrial revolution, can hardly be more

apt or more timely.

If you think about all the changes going on all over the world, whether that's artificial intelligence, advanced robotics, face recognition, voice computing, autonomous vehicles – any one of these things on their own has the power to be revolutionary. Taken together, they certainly do constitute something of the sort of magnitude to turn a revolution.

And of course in this country, having learnt lessons from earlier industrial revolutions, we are very conscious of the effects that can be. Of course we've been here before and on the screen you see some of the various changes that have happened throughout the ages, and there have often been predictions that long swathes of people will find themselves out of work as a result.

Now of course in the end people found new jobs, whether they would be the stable hands or the scribes, they found other work – or their work evolved to take account of those new technologies. But of course there was often, in these previous big changes, a great deal of upheaval along the way. And the reason why they say that the theme of preparing students for success is the fourth industrial revolution is because of course there is nothing guaranteed about preparing us for these changes and being able to make the very best of the opportunities that present themselves.

The other thing that is very noticeable from this timeline is that when things accelerated, the pace of change is so much greater than it had been in the past. So we need to make sure – as our economies evolve, as society evolves – we need to be sure that in the world of education we are absolutely there and on top of it.

So what does it mean for education? Well with all the things that are changing in the world I believe there are some things that don't change, apart from, they may just be more important than ever they have been. And I do believe this more than ever, that our young people complete their formal education coming away with the knowledge and with the qualifications that they need to make the best success of their lives.

So these core academic subjects are at the heart of that. In this country, in the United Kingdom, before 2010, our focus had slipped away somewhat from those core subjects and we found that we were experiencing results which were apparently improving year on year. Even while our standing in international comparisons – objective measures of performance – was stagnated. So we had year on year grade inflation.

All too often, the expectations for the results that would be achieved by young people from disadvantaged backgrounds were not high enough. There was a shift toward alternative qualifications, often targeted toward those people. But it turned out those qualifications were not as highly regarded and did not have the same worth in the jobs market and in society as the more traditional qualifications. And so that could unfortunately limit the possibilities that those young people would have.

So, the government after 2010 set about addressing those issues. Firstly, by

reforming our national curriculum, by bringing renewed rigour to our qualifications, to our GCSEs and A-Levels and bringing in a new suite of subjects, a new measure to really focus on those core subjects that we know are the enabling subjects that open up so many possibilities – English, Maths, Science, the Humanities and languages.

Nobody, of course, has all the answers and the British government didn't believe that it had all the answers. In fact, unashamedly, we looked right around the world for where we can learn from. For example, from East Asia, learning approaches to teaching primary mathematics, and that approach has continued. Just last week we welcomed another 36 teachers from Shanghai in a continuation of our teaching partnership with China that has gone on since 2014.

There's so much else for all of us to learn from one another, and so many challenges that we share in our different countries. For example, closing the attainment gap, spreading education opportunity ever wider to disadvantaged groups.

There is no practical limit to the educational world. With organisations like Ofsted and ARK, some of the great names in higher education. What the British Department for International Development has done, particularly in supporting education for girls in developing nations. Some of the great innovators of educational technologies, some of whom you have a chance to meet hear and at BETT. And indeed my experience on change programmes, on school autonomy, on the early years and on phonics.

We want, like you, we want our students to have an international perspective and very wide horizons. Hence the continuing importance of exchange programmes, particularly for us with European countries but also looking further afield. For example, with the British International Citizenship Service and the Generation UK China programme – and indeed not just with students but also with teachers and headteachers. And we are pleased to have just celebrated the 10th anniversary of our head teacher exchange with Singapore.

But now that point about international global perspectives helps to highlight the way in which exams and qualifications – the most important things you take with you into life – but they are not the whole picture when it comes to what we will achieve outside the realm of qualifications, which matters a great deal as well.

That you believe you can achieve, that you stick with the task at hand, that you understand the link there is between the effort you make now and the reward that may come in future – albeit distant and uncertain – and the resilience, the ability to bounce back from the knocks that inevitably life brings to all of us.

Now I was, until I became the Education Secretary, I was the Minister for Employment and in that role I also heard a lot from businesses about the importance of work place skills, sometimes called 'employability skills'. Sometimes, by way, also called 'soft skills' but I would suggest to you,

ladies and gentlemen, there is nothing soft about these skills.

The hard reality of soft skills is that actually these things around the workplace and these things around character and resilience are important for what anybody can achieve in life, as well as for the success of our economies. They're not exactly the same thing, character and workplace skills, but there obviously is some overlap.

I don't suggest they can just be taught, but clearly what happened the ethos of the school, the expectations that are set for students, and the support that's given, alongside what happens in extra-curricula activity and sport, public speaking, voluntary work will all have an effect on character resilience or workplace skills that our young people take with them.

There's something else about the needs of the modern economy, and that's digital skills. Something like nine in ten of the new jobs being created require digital skills to some extent and we are blessed in having, coming through now, what you might call the generation digital. Those who have grown up with computers, tablets and phones who can do stuff that when I was young was unimaginable.

But we want to go further than just having young people who are just able to work with technology and we are taking every chance to make sure we make technology work for us. So, in our new computing curriculum, we are going beyond the ability to use apps, to write apps. We are investing quite heavily – £84 billion over five years – to improve the teaching of computer science. That includes the additional training to a higher level for 8,000 existing teachers of that subject.

But of course, throughout the economy, throughout society, you can't predict exactly what the future is going to be. I suggest to you, ladies and gentlemen, that is even more true when you talk about the development of technology. We need to be flexible and we need to be open minded about what may come in the future. And that, of course has a knock on effect into what happens in the Labour Market as a whole, and there are academics throughout the world about what the future shape of the Labour Market may be.

The truth is, no one really knows what exactly the future of work and what the future of the Labour Market may be and we will need to be able to flex and adapt and adjust.

Now for too long in this country, the level of adult training has been at a too low paid level. For decades, in this country as I know in others, we've talked about the importance of lifelong learning – that's the ability to take on new knowledge and new skills that shouldn't stop when your education ends.

It is a well worn theme I know in many of our systems. I think we are now at the point where we have to really make this a reality. In Britain, we are launching a national retraining scheme to make sure those opportunities are available throughout peoples' lives. We're starting in construction and in digital skills and particularly with the digital skills part of the national retraining scheme, it is an opportunity for us to pilot how educational

technology can help to deliver digital skills to people right throughout the country in a new innovative way.

That point about the possibility, the potential of technology leads me to the last thing I wanted to say, and that is about the role of technology in education itself. I know there is trepidation in schools, quite often colleges, about the role of technology. And let me be clear about one thing, in the research that the Department for Education in the UK has done on classroom teaching and how it works, it is absolutely clear that direct instruction is of paramount importance. Teaching education is a people business and it is the inspirational teacher at the front of the class that makes the child's education. That is the bit which famously and repeatedly they say they will never and do never forget.

But technology must have a role in our sector, as it does in other sectors, to be able to ease workload – which is a matter I know is of great importance for teachers in this country, and quite rightly so. And I share their drive to wish to work around but also to be able to track and monitor the progress of pupils – and where there are further opportunities to bring new types of content to students and effectively introduce them to whole new worlds.

And in parts of the world where school is too distant – or perhaps too dangerous – to reach, technology gives an opportunity to reach out with education to people, whether they are children or indeed adults, who might otherwise not have had the opportunity to benefit from it at school. And at the BETT conference that follows this Forum there will be the opportunity to look into those classrooms and those virtual classrooms of the future, and I know colleagues will look forward to that very much.

Ladies and gentlemen most of what is good in this world comes from our ability to share knowledge. The great inventions, the everyday conveniences – it's all about coming together and working together. This Forum – the Education World Forum – is a fantastic example of that. It's about coming together to make sure we can replicate our successes but also, just as important, to make sure we can avoid avoidable and costly failures.

Decisions that are made here can change lives. Again, I want to thank the organisers for putting on this Forum and all of you for being here. I welcome you to this city and wish you a very successful, enjoyable and productive conference.