Speech: Artificial Intelligence from Alan Turing to the Industrial Strategy

Thank you, Stephen, for the introduction. Your work as a board member at BEIS has been of huge value, as has your contribution to this industry and many other spheres of public life.

It is fantastic to be here at the world's largest AI Summit for businesses, which now in its third year is going from strength to strength. Quite apart from the range and reputation of our sponsors, the 10,000 visitors expected over the two days is testament to just how engaged and passionate the AI community is.

Almost 70 years ago to this day, in July 1948, just 15 miles upriver from here, a document (I have a facsimile here to show you) landed on the desk of the National Physical Laboratory — then, as today, the UK government's leading research lab — that would be my nomination for the greatest research report ever written. The title: "Intelligent Machinery". The author: Alan Turing.

It is breath-taking in its vision, confidence, intellectual fizz and prescience. I recommend all of you interested in AI to read it.

Alan Turing had discovered brilliant theoretical results in logic at Cambridge. Then, during the war, in pursuit of an overwhelmingly important national mission, he had become the most brilliant and innovative codebreaker, not only building machines, but also a team that continues to be legendary. At Bletchley Park, high theory merged with wires, transistors and solder to crack urgent real-world problems.

Then after the war the National Physical Laboratory recognised the extraordinary winning combination of practical, theoretical and human intelligence in the person of Turing and set him on his future path of building machine intelligence.

And here we are today, in direct descent, with a renewed understanding that the momentous potential of the AI and data revolution will bear full fruit when all of us — brilliant scientists, businesses as setters and solvers of real-world problems, investors as risk-takers, and government, as enabler, coordinator and partner, all come together.

That is why I have developed our country's <u>Industrial Strategy</u>, and I am very pleased that many of the companies and institutions in the room today have come together to define an AI Sector Deal with government — it is just the start of a deep and rich relationship, and already it has committed over £1 billion in investment.

The changes that AI is bringing are epochal.

There aren't many moments in human history when a technology turns up that

changes everything. Agriculture ... the wheel ... the printing press ... then steam, chemicals, oil, electricity; then the micro-processor. And we are living through one of those moments now. In 2017, when the London-based DeepMind beat Ke Jie, humanity's best Go player, a symbolic date entered the history books.

So why is AI quite so revolutionary?

Because previous technological revolutions discovered specific ways to improve human lives; this revolution has discovered automatic ways of discovering more. Thus the power to improve the lot of humanity is unprecedented.

No wonder there are "Singularity-mystics" in California who believe this is taking us rapidly towards Starship Enterprise. Well ... I'm certainly all for the "Enterprise" bit, even the starships of our space program, but I'm not sure about the singularity. An instance, perhaps, of the British pragmatism, empiricism and understatement that has proved its worth in science and business.

The extraordinary transformations this implies are not pie in the sky, they're not "flying cars tomorrow". They are happening, as attested by so many of the amazing ways that the businesses in this room are already using AI.

Whether it is Professor Rose Luckin making a robotic teaching assistant that takes the drudgery out of routine marking and administration ...

or Rolls Royce — I look forward to hearing from Neil Crockett their Chief Digital Officer — building autonomous ships ….

Whether it's Improbable — our latest UK -bred unicorn (\$500m raised from Softbank. congratulations!) — building the most sophisticated general purpose simulations of reality ever seen …

Memrise, a language learning app who I heard just yesterday had raised £11.5 million \dots

or indeed Quantaxa, harnessing the value of huge databases to combat financial fraud

Whether it's RAVN automating the dullest aspects of document control in a complex corporate legal process — no offence taken, I hope, from any lawyers in the room for the suggestion that not every aspect of the job is scintillating …

or a composer automating the orchestration of their latest symphony ...

Whether it's Babylon — the UK-developed health triage robot revolutionising front line access to health in Rwanda …

or Darktrace, the AI-powered security company that is already used by 5000 global businesses to keep their networks secure ...

I am genuinely in awe of the range, the creativity, the power, of what you in this room are doing and building.

And the more I find out about how this technology works — how reinforcement learning in complex networks rewards one parameter or downgrades another — the more I am struck by the parallels between the economy — that somewhat complex system whose long-term health my department has much of the responsibility for — and an AI system.

Indeed, at the same time as Turing was writing in Teddington, Hayek, the Nobel prize winning economist who made London his home for many years was in his office at the LSE, just 6 miles away from where we stand, working on his theory of the economy as a massively parallel social computer; individuals, companies and entrepreneurs were nodes that were endlessly locally optimising and feeding information to neighbouring nodes.

So in a sense, we are all involved in an enormously complex large-scale network optimisation. Our Industrial Strategy is a crucial piece of that optimisation. We need to upgrade our economy — version 4.0 — for the great transformation that is coming, and we approach this task in the spirit of intelligent designers.

We have set ourselves the grand challenge of putting the UK at the forefront of the AI and data revolutions. The Prime Minister has announced our "moonshot" mission of using AI-powered early diagnostics to revolutionise cancer treatment in this country, with 20,000 more 5-year survivors by 2030. I hope that many of you in this room will be involved in reaching our ambition to increase survival probabilities for common cancers.

But the opportunities of AI run deep throughout our Industrial Strategy.

Taking each of the 5 foundations in the Strategy:

Ideas

• We are spending an additional £7 billion in public R&D over five years — the greatest real-terms increase of any UK government ever

Skills

 We are investing in the deep skills that are needed, supporting our world-class universities throughout the country to build on their strengths — London and Edinburgh for pure AI and computing; Queen's University Belfast in cryptography, Birmingham and Liverpool in medtech — to name just a handful. And thanks to our new funding, 1000 more researchers every year will be studying for an AI-related PhD

People

• I'm very pleased to be able to announce today that our AI Masters Programme, a central plank of the AI Sector Deal, has brought together the British Computer Society and the Turing Institute with leading universities, and businesses like Ocado, Amazon and Rolls Royce, and will start work in July

Infrastructure

• Anywhere access to top quality digital networks is vital to support the development of the AI and data driven economy that we are committed to. Currently superfast broadband is available to 91% of UK premises, and by 2025 15 million premises will have full-fibre

Business Environment

• I have asked the regulators of the sectors that many of you here are busy disrupting to build on the sandbox concept to find imaginative ways to be innovator-friendly

Places

- our densely connected network of global top 100 university cities and towns creates thriving places in which workers find the jobs of the future and firms find the skilled, creative and confident workforce to build it
- indeed, TechNation's 2018 report published just last month, described a network of more than 3,500 tech meeting up groups throughout the UK, with over 1.6 million individual members. And to underline the fact that tech doesn't just live in London these groups meet up in 283 locations across the country

AI is at the centre of a thriving digital tech sector now worth £184 billion to the UK economy. Tech-related investments in Britain surged nearly 90% last year, more than in France, Germany and Sweden combined.

This investment and growth is a tribute to the intellectual creativity which is such a key part of what we offer to the world. When it comes to Nobel prizes in the Sciences, we come second only to the USA. But we have 50% more Nobel prizes per head of population than the USA. When it comes to universities in the global top 100, we come second only to the USA. But we have a whopping 2200% more of them per square mile than the USA.

Why does this matter so much? Because innovation, creativity, thriving lives and thriving places all go with dense networks and connections. In many ways, innovation is like a chemical reaction: the concentration of inputs matters. And indeed, the facts bear this out — with less than 1% of the world's population, our universities account for 16% of the world's most-cited academic articles. That excellence leans on geography and language and the warm welcome we have always and will always extend to talent from all over the world. But it also rests on the key organisational foundations for good research: openness, curiosity, independence, and strict academic meritocracy.

A change as momentous as this needs not just Sectors, Industries, Universities and Localities to work together — as if that were not already a huge task. Government needs to ensure that the whole country understands and supports the great changes ahead.

Remember for a moment the Luddites. They often come up as the group that was on the wrong side of history, dinosaurs. They were that, but they were also

skilled artisans, ordinary people frightened for their future place in society. Today we know their fears were unjustified — that we have never had more demand for good, skilled jobs than when the machines have taken the grunt out of human work. And it will be the same again: AI and automation will raise the demand for the most human work; and the government, with business and educational bodies, will deliver the institutions that allow everyone to develop their skills.

It is not only as workers that some are fearful. Take our lives as consumers, for example: personalised pricing, technology designed to be addictive, our data being used against our interests.

Let me give an example that might appeal to those of you who have flown in for this event on an economy airline. If you travelled with a family member, bearing the same surname, did that airline's booking system automatically place you together? Or did it automatically place you in non-adjoining seats, to try to extract from you a premium payment for the 'privilege' of travelling together? On such questions will the trust of customers be won or lost.

Once again, government's role is to bring forth an environment in which companies treat customers with the respect they deserve, not use data and digital technology to exploit them. Our <u>Consumer Green Paper</u>, published in April, has started this conversation.

Shifting social understandings and practices — we have done this well before. Think of the way that we've been able to build popular support for stem-cell research. We are doing the same thing around the use of data and algorithms by establishing the Centre for Data Ethics and Innovation, with the goal of developing a new national consensus around data and AI. I am delighted that Roger Taylor was this morning announced as chair of the Centre. Roger founded Dr Foster and understands how innovative use of data can deliver huge benefits for service users.

Take just one example of what I mean. We have our mission to massively improve diagnostics with AI. Our side of the deal to achieve this is to provide funding, for sure. But even more valuable, it is to allow secure access to the resource that is our NHS data. For this, we need the public to trust that the power this unleashes will be well used to help us live longer, healthier lives.

Our democracy and institutions have the pragmatism, legitimacy and flexibility to rise to the challenge of bringing the whole country behind these momentous transformations.

And this, of course, is a sense in which our task in creating this better future is in fact different from the task of optimising an algorithm: the ultimate object and purpose is always enhancing human capabilities.

Let me come back to Alan Turing's extraordinary research proposal. When describing social intelligence, a form he does not think he can automate, he writes: "the search for new techniques must be regarded as carried out by the human community as a whole".

The power of the AI transformation for good is immense. We, here today, bring together all the skills and functions to succeed in this most important of tasks — to search these new landscapes for the good, to echo Turing's words, of "the human community as a whole".

Together, we will build the talent, invent the tools, solve the big problems of humanity, and align all this with the public good.

To work, colleagues!

Press release: Huge boost to UK's data capability as big business backs world-first AI talent scheme and chair of data ethics and innovation centre is confirmed

The plans are part of a package to boost the UK's data capability being unveiled by the Department for Digital, Culture, Media and Sport, which also includes:

- Confirmation that Roger Taylor will chair the Centre for Data Ethics and Innovation;
- The launch of a <u>consultation</u> on the Centre's remit and a search for the team to run it;
- New plans to develop a National Data Strategy to unlock the power of data in the UK;
- Measures to increase the UK's leading role in the ethical use of data in the public sector;
- £350,000 to help Internet of Things (IoT) innovators and the emerging technology sector;
- The South West being selected as one of two areas designated as a Digital Skills Pilot Area, with the establishment of a new Digital Skills Partnership to build a thriving digital economy in the region.

The work follows the Government's £1 billion artificial intelligence sector deal, announcement of its modern Industrial Strategy, and new figures published this week by Dealroom and Tech Nation showing the UK's track record of producing successful tech companies. Forty per cent of Europe's unicorns — \$1 billion-plus tech companies — are based here.

Digital Secretary Matt Hancock said:

We're already recognised as the number one country in the developed world in readiness for AI and we are working flat out to keep hold of that crown.

With Roger Taylor at the helm of our new Centre for Data Ethics and Innovation, plans to train the top-tier tech experts of tomorrow and a commitment to develop a new National Data Strategy, we will continue to be Europe's digital dynamo and the place to start and grow a digital business.

Julian David, CEO of techUK, said:

Today's announcement is more evidence of the Government's commitment to keep the UK at the forefront of innovation in AI. In building a world-leading framework for digital and data governance, the UK can be a pioneer in the development of responsible AI.

We are pleased to see the Centre for Data Ethics and Innovation start to take shape. Industry stands ready to support Roger Taylor in his new role and the consultation process announced today. The Centre has a crucial role to play in creating the right environment for industry, academia, civil society, regulators and policy makers to consider how best to ensure ethical decision making is at the core of all implementations of AI.

techUK also welcomes the investment and commitment made by industry and Government in the new industrial masters programme. Building the next generation of UK AI talent is vital to securing the UK's AI future.

These announcements come as the Government also confirms:

- A new Start-Up Visa for entrepreneurs to launch in Spring 2019. This will replace a visa route which was exclusively for graduates, opening it up to all business people.
- A new £2.5 billion Patient Capital Fund to open for business to support UK companies with high growth potential to access long-term investment to grow and go global.

- Two new Tech Hubs launched in Brazil and South Africa. UK companies will be paired with overseas innovation through these hubs, to develop skills, capability and business networks in these markets, and facilitate partnerships.
- The opening up of the Ordnance Survey's valuable geospatial data to small businesses for free to boost competition in the digital economy.

Further Information:

AI masters programme

The new industrial masters programme for artificial intelligence will see the British Computer Society and Alan Turing Institute partner with universities and major corporations to boost the numbers of highly qualified experts and help give the UK's tech industry the talent it needs to thrive in the future.

The scheme responds to recommendations made by Professor Dame Wendy Hall and Jérôme Pesenti in their independent review into growing the UK's AI industry as part of the Government's Digital Strategy.

Hall and Pesenti called for top-tier programmes developed with industry to meet the needs of employers and conversion masters degrees for students not studying computing or data science.

Work to develop the programme will begin in July with an ambition for it to launch in 2019.

Doug Gurr, UK Country Manager, Amazon, said:

For 20 years, we have been in the UK thanks to the great talent and strong culture of innovation across the country. So we welcome the new AI Masters Programme as an important commitment to developing and enhancing the skills needed to boost productivity and maintain the UK's competitiveness on the global stage.

Nicolaus Henke, senior partner and head of McKinsey Analytics and Chairman of OuantumBlack, said:

We depend on a diverse, global talent pool to power our ability to deliver impact to our clients. We grow where we can find the best talent, and we are committed to helping develop talent in the markets where we operate.

We're excited to support the AI Masters Programme in their efforts to enable distinctive candidates in the fields of medicine, business, law, and social sciences to develop and apply the critical skills needed to bring AI to their fields. We believe strongly that by developing a cadre of "translators" we will enable these fields to harness the full potential of analytics and artificial intelligence in the pursuit of their missions.

Thomas Lee-Warren, chief technology officer, R2 Data Labs, Rolls-Royce, said:

The opportunities and developments in Artificial Intelligence are moving ultra-fast. At Rolls-Royce we believe that collaborating with the UK Govt, leading universities & the Alan Turing Institute, to establish an AI Masters Programme that drives diversity and inclusiveness, will further strengthen our reputation as a world-leading adopter of AI technologies and the UK as a global centre of excellence for data science and AI.

Paul Clarke, Chief Technology Officer, Ocado, said:

When it comes to disruptive technologies, AI really is the "one to rule them all". That's why the government's AI Sector Deal is so important for the UK's future competitiveness, productivity and prosperity.

Realising this opportunity means feeding and maintaining the digital literacy and skills pipeline that stretches from primary school, through tertiary education and on to lifelong learning; the new AI Masters programme is an important new section of this pipeline.

Centre for Data Ethics and Innovation

Roger Taylor will lead the new Centre, which is core to the Government's Digital Charter and desire for the UK to lead the world in innovation-friendly regulation that boosts the tech sector and provides stability for businesses.

The centre will promote safe, ethical and innovative use of data. It will put the UK at the forefront of global efforts to seize the opportunities of artificial intelligence.

A <u>consultation</u> on the Centre's role, objectives and activities has been launched today alongside a search for the team with the skills and expertise to run it.

Roger Taylor, new chair of the Centre for Data Ethics and Innovation, said:

I am delighted to be appointed as the first Chair of the Centre for Data Ethics and Innovation. I'm looking forward to setting up the Centre and working with the board to ensure that powerful data-driven technologies are deployed in the interests of society. The Centre has an ambitious and important role to play in making sure

we harness the full benefits of data and artificial intelligence and I am pleased to play a central role in shaping its work during this early and critical phase.

National Data Strategy

The Prime Minister has also today asked the Digital Secretary Matt Hancock to produce a National Data Strategy to unlock the power of data in the UK economy and government, while building public confidence in its use.

The UK has a strong record on data and this move will build on the UK Digital Strategy, Digital Charter, Industrial Strategy and Grand Challenges to break new ground on data.

Data Ethics Framework

Government work in this area includes leading the global debate on how data should be used in the public sector. Following the recent expansion of data policy in the Department for Digital, Culture, Media and Sport, a new Data Ethics Framework has been launched to make sure the UK Government sets the highest global standards for how public servants should use data appropriately and provide first-rate evidence for policy and service design.

The scheme is the only effort by a national government to discuss the considerations public servants should make when using data to inform policy and service design.

Luciano Floridi, professor of Philosophy and Ethics of Information at from the Oxford Internet Institute, said:

The Data Ethics Framework [] is a timely and very helpful step forward in how government and the public sector can use data in ways that are ethically preferable. It is grounded in actual practices and in the core values of the [Civil Service Code: [] integrity, honesty, objectivity and impartiality. And it provides clear advice about how to deliver data-based solutions for social good. DCMS should be commended for such an excellent initiative.

Michael Veale, researcher in responsible public sector machine learning at University College London, said:

Aligning advanced government data science with public values can't be done with a simple recipe or static "best practice". It needs a creative, inclusive and rigorous process. To my knowledge, the UK Government Data Ethics Framework is the first document in the world which places this at its heart, drawing together design principles, core questions and caveats, and the key social, legal and technical dimensions—all within the realistic contexts of those designing, maintaining and overseeing systems on-the-ground.

Data science needs and priorities within the public sector are so different than other domains that knowledge of how to do this well has to be invented in-house, not imported. The framework connects issues ranging from procurement and reproducibility to algorithmic fairness and accountability, and is the document all government data scientists should be given on day one.

Digital Catapult

DCMS is also providing £350,000 funding to the Digital Catapult's work to help Internet of Things (IoT) innovators and the emerging sector. The investment will link up IoT projects in the UK, helping people benefit from connected devices and technology safely. It will showcase the UK as an international leader in these fields.

ENDS

Notes to editors

- The Minister for Digital and the Creative Industries Margot James will also today (Wednesday 13th June) host the annual UK-Korea Creative Industries Forum with Korea's Vice-Minister of Culture, Sport and Tourism, Roh Taekang, at the British Library to discuss future collaboration in AI, immersive tech and gaming. An agreement between the UK and Korean governments will be signed setting out how the two nations will work together on innovation to support jobs and growth.
- The British Computer Society is the recognised institute for IT professionals and the key accreditor for computer science degrees.
 Working with a range of other institutes and accreditors, the BCS will consult widely on the requirements and opportunities for delivering a Masters Programme to provide industry the skills and qualifications it needs.
- Roger Taylor was the co-founder of Dr Foster, a provider of healthcare data management and analysis, and helped grow the organisation from a start-up to an international business.
- He was also founder and former Chair of the Open Public Services Network at the Royal Society of Arts, producing a series of publications on transparency and user engagement in public services.
- He has extensive experience leading advisory bodies, including Ofqual.
- He was also founder and former Chair of the Open Public Services Network at the Royal Society of Arts, producing a series of publications on transparency and user engagement in public services.

- He is well placed to establish the Centre as a credible and authoritative source of advice on the governance of data and AI.
- Expression of interest for the Centre for Data Ethics and Innovation board will be published here.

<u>Press release: Change of Her Majesty's</u> <u>High Commissioner to the Federal</u> <u>Republic of Nigeria</u>

Ms Catriona Laing CB has been appointed British High Commissioner to the Federal Republic of Nigeria in succession to Mr Paul Arkwright who will be transferring to another Diplomatic Service appointment. Ms Laing will take up her appointment in November 2018.

Curriculum Vitae

Full name: Catriona Wendy Campbell Laing

Married to: Clive David Nicholas Bates

Children: One daughter

2014	to	present	Harare, Her Majesty's Ambassador
2013	to	2014	FCO, various specialised projects including in Crisis Management Department, and as additional Deputy Head of Mission in Moscow
2012	to	2013	Helmand, Head of Mission and NATO and UK senior civilian representative
2009	to	2012	Ministry of Justice, Director, Human Rights and International
2006	to	2009	Khartoum, Head, Department for International Development (DFID)
2005	to	2006	DFID, Head, International Division Advisory Department
2001	to	2005	Cabinet Office, Deputy Director, Prime Minister's Strategy Unit
2000			DFID, Globalisation White paper team
1999	to	2000	DFID, Head, Eastern Europe, Western Hemisphere Policy Department
1996	to	1998	DFID, Team Leader, European Union and International Economics Policy Department
1995	to	1996	Cranfield University, MBA Course

1994 to 1995	DFID, Economic Adviser, Latin America, Caribbean and Atlantic Department
1993 to 1994	UN Mission in Somalia, Head, UN Development Office
1992 to 1993	Overseas Development Administration (ODA), Economic Adviser, Aid Policy Department
1990 to 1991	ODA, Assistant Economist, British Development Division East Africa
1989 to 1990	ODA, Assistant Economist, West Africa Department
1986 to 1989	Botswana, Planning Office in Ministry of Works, Transport and Communications

Further information

- Follow the Foreign Office on Twitter office and Facebook
- Follow the Foreign Office on Instagram, YouTube and LinkedIn

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Press release: School children flood in for new defences tour

Engineers went back to school to give youngsters in Teesside a tour of new multi-million pound flood defences which protect their community from flooding.

Pupils at High Clarence Primary School were shown around the state-of-the-art £4.5million flood defences at Port Clarence which reduce the risk of flooding from the River Tees.

And they saw first-hand the £11million scheme, currently under construction, which reduces the risk of flooding from Greatham Creek and will create 30 hectares of new habitat for wildlife to thrive.

Together the projects protect 350 homes and 32 businesses at Port Clarence from flooding.

Pupils travelled on the Transporter Bridge across the River Tees to get a bird's eye view of the flood defences, while at Greatham they got to see workers in action building new flood embankments — and even got to see the popular seals!

The event, which took place last week (Friday, 8 June), also gave local residents the opportunity to find out more about the scheme, while MP Alex Cunningham was also given an insight into how the defences work to protect his constituency.



Great project with innovative features

Phil Marshall, the Environment Agency's Senior Advisor on the project, said:

It's really important the community understands how the flood defences at Port Clarence work together with the scheme at Greatham Creek to reduce their risk of flooding.

It's a great project with lots of innovative features and the added benefit of creating extra habitat for wildlife in a vital conservation area.

Our future generations will play an important role in ensuring our communities are resilient as we deal with the impacts of climate

change and it was great to show the school pupils this great engineering and habitat creation project. Hopefully it will inspire them to want to make a difference!

The first phase of the project was completed in December 2015 and saw new flood defences built in Port Clarence, consisting of a mixture of earth embankments, flood walls, and a raised section of the road on the approach to the Transporter Bridge.

In addition, the Environment Agency worked together with local business Wilton Engineering to install removable steel flood defences along the River Tees. This improves flood protection while still allowing Wilton to operate from the river.

Work started on the second phase in summer 2017 and involves raising existing flood embankments along Greatham Creek.



Managed realignment

There is also a managed realignment of part of the current flood defences. This means a new embankment to the north of the RSPB Saltholme Nature Reserve has been built around a larger area of land, and then the existing flood embankment will be breached later this year.

This results in the creation of around 30 hectares of intertidal habitat to the north of the nature reserve. It's a popular area frequented by seals, and a variety of bird species including shelduck, knot and redshank.

The Environment Agency is working with local businesses in the area, with SABIC UK providing funding towards the scheme and INOVYN ChlorVinyls providing some of their land for the additional habitat creation. Phil added:

Work is progressing well and is expected to be completed this autumn. The local businesses in the area know only too well how devastating it is to be flooded having been affected by the tidal surge in December 2013.

By working together with industry we're vastly improving existing defences to protect residents and businesses and reduce the risk of flooding now and into the future as sea levels start to rise. This has been quite a unique partnership and I can't emphasise enough the benefits this will bring for the area.



The Environment Agency has also been working closely with partners at RSPB and Natural England to design and build a scheme which maximises benefits for the internationally designated habitat, and to ensure disruption to wildlife and visitors to the local area is kept to a minimum.

Contractors BAM Nuttall and Mott MacDonald Joint Venture (BMMJV), are carrying out the work on behalf of the Environment Agency.

If you would like to know more about your risk of flooding and how to be prepared call Floodline on 0345 988 1188, or visit the Floods Destroy website

News story: Media intelligence merger could raise competition concerns

Nielsen and Ebiquity gather, collate and analyse information on the advertising activity of companies.

Both companies are the only suppliers of this intelligence across a broad range of UK media. While they face some competition from firms offering this service for digital advertising, no firm competes with Nielsen and Ebiquity for detailed intelligence across all UK media channels.

The Competition and Markets Authority (CMA) therefore found competition may be significantly reduced if the merger went ahead as planned.

The CMA also found that the companies are each other's closest competitor in the supply of intelligence on international advertising to UK customers, and that they face only limited competition from other suppliers for this service.

Nielsen and Ebiquity have until 20 June to offer a solution to the competition concerns raised by the CMA, otherwise it will go ahead with a more in-depth (phase 2) investigation.