Press release: World's Fastest 3D Microphone Array Simulation Software

Based on technology originally developed for the UK Home Office, A3S gives developers the ability to dramatically reduce audio array simulation times, improve the fidelity of results, and increase performance using fewer components. Significantly decreasing simulation times during product development from eight hours to 30 seconds* (a reduction of 99.9 per cent), A3S calculates in near real-time the physical configuration of the audio array in order to achieve optimum performance.

For the first time manufacturers will be able to fully exploit the potential of audio arrays, and deliver microphone/speaker-based products which:

- Require fewer audio components and reduce device size — tests of an off-the-shelf product reduced the number of microphones by two-thirds, while improving audio performance.
- Minimise development costs — less product development time can be spent simulating and prototyping arrays. It also allows the modelling of more frequencies, resulting in a product with greater confidence in its performance, and potentially removing the need for costly redesigns.
- Are smarter — products can be optimised to cope with changing environments, as near real-time characterisation allows beamforming to be conducted on-the-fly to dynamically focus microphones and cancel out noise.
- Are less power hungry — less processing power required by fewer microphones.

Gerry Scott, Commercialisation Manager at Ploughshare Innovations, said:

> A common development approach is to deploy multiple microphones and speakers in a product to achieve an acceptable level of performance. However, without full optimisation, they will still under-perform.The developers of A3S have proven that simulations can be conducted 1,000 times faster than current approaches, allowing developers to create high performing products with more confidence. Reducing the number of components also means that high-end audio products can be created with a smaller form factor and at less overall cost, giving manufacturers potentially significant cost savings. A high-end audio experience will become more widely available to us all.

Examples of what applications could use A3S to improve audio product performance include voice recognition, smartphones, automotive, immersive audio and gaming/home cinema.

- In tests, the simulation time of a 16 microphone array was reduced from

eight hours to
30 seconds. In addition, A3S simulated hundreds of frequencies –
significantly more that than the eight frequencies managed by the
conventional method.

About Ploughshare Innovations (www.ploughshareinnovations.com)
Ploughshare Innovations is the technology transfer organisation for the UK
Ministry of Defence (MOD). It turns 'swords into ploughshares' by enabling
businesses to gain access to defence and security technology developed by
leading government laboratories. Ploughshare ensures Government technology is
put to good use and benefits the UK, society as a whole, and humanity by
applying innovative technology to improve people's lives. Since its creation
in 2005, the company has licensed 120 technologies and attracted £140 million
of investment.

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News story: Honorary Queen's Counsel nominations: deadline Monday 13 August 2018

The Ministry of Justice (MOJ) is inviting nominations for appointment as
Queen's Counsel (QC) Honoris Causa, also known as honorary silk. Nomination
forms must be completed and returned to MOJ by 12pm on Monday 13 August 2018.

The rank of QC is awarded to advocates (barristers and solicitors) who have
demonstrated particular skill and expertise in the conduct of advocacy. It
has been awarded in various forms for around 400 years. The rank of QC
Honoris Causa is separate to these awards and are awarded to lawyers and
legal academics that have made a major contribution to the law of England and
Wales outside practice in the courts, which has not been recognised through
other forms of honours.

Honorary silks were first awarded in the late nineteenth century and it has
been the practice for the monarch to appoint a small number of lawyers and
legal academics for the honorary silk with each round of substantive QC
appointments. The nomination and appointment of QC Honoris Causa is

administered separately to the honours system.

Eligibility criteria

In making a nomination you should ensure that your nominee meets the required criteria set out below:

- the award is open only to qualified lawyers and to legal academics
- the individual should have made a 'major contribution to the law of England and Wales'
- 'Outside practice in the courts' will generally mean that the award is made for an achievement other than a person's normal practice as a lawyer or academic
- QC Honoris Causa is not a 'working rank'. It cannot be used in practice as a lawyer. QC Honoris Causa cannot be awarded as an alternative to the substantive QC rank for people who, for whatever reason, do not fit its eligibility criteria
- QC Honoris Causa is awarded only to those who have made a major contribution to the law of England and Wales. There is no exact equivalent in Scotland or Northern Ireland. However, this does not mean that achievements of a similar nature cannot be recognised in those jurisdictions. If you would like to nominate someone, whose work is in Scotland or Northern Ireland, for an honour you can contact the [Scottish Government](#) or the [Honours Secretariat for Northern Ireland](#).

We recognise that those who are not lawyers or legal academics make equally valuable contributions to public life, and may have done so in similar fields as legally qualified individuals. If you feel a non-legally qualified individual ought to be recognised, you can instead [nominate them for an honour](#).

If someone is nominated for QC Honoris Causa who has been nominated for an honour this year or has already been honoured in the last year, it is very unlikely that their name will be put their name forward for honorary silk.

Please note that anyone nominated may be subject to criminal record checks with ACRO Criminal Records Office.

You can see examples of previous successful nominees by viewing some [Case studies of successful nominations](#) (PDF, 109KB, 1 page)

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How to make a nomination

We welcome nominations for QC Honoris Causa from anyone, no matter what your background. If you would like to suggest someone for appointment, please complete the [Honorary QC nomination form](#) (MS Word Document, 87KB)

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When completing the form please give as much detail as possible. The more we know about a nominee, the easier it is to assess whether they meet the QC Honoris Causa criteria. If we have only a limited amount of information about someone, it is unlikely that we will be able to recommend them for appointment. You can nominate as many people as you like, but please ensure that you keep their details separate.

You need to complete the nomination form and send it to us by 12pm on Monday 13 August 2018 preferably by email or alternatively post to:

Legal Services Team

Ministry of Justice

Post Point 9.13

102 Petty France

London SW1H 9AJ

Email: honoraryqc@justice.gov.uk

Please note, we will only accept nominations which are submitted on the nomination form attached to this webpage. Letters of support for a candidate will not be accepted. In cases where more than one person wishes to nominate a single candidate, each individual must send in a separate form for the nominee. This gives a fuller representation of the candidate's suitability for QC Honoris Causa.

Timing

Please ensure that your nominations reach us no later than 12pm on Monday 13 August 2018. Nominations made after this date cannot be accepted.

Contact us

If you would like additional information on honorary silk or how to make a nomination, please feel free to contact us by email: honoraryqc@justice.gov.uk.

[News story: The AAIB is sending a team](#)

[to the Western Isles, Scotland](#)

The AAIB has sent a team of inspectors to investigate an aircraft accident that occurred in the Western Isles, Scotland.

[Read more about how we investigate aircraft accidents](#).

[Press release: Unlocking of government's mapping and location data to boost economy by £130m a year](#)

Updated: Added link to narrative

As part of the Prime Minister's London Tech Week roundtable today, the government has announced that key parts of the OS MasterMap will be made openly available for the public and businesses to use.

It is estimated that this will boost the UK economy by at least £130m each year, as innovative companies and startups use the data.

The release of OS MasterMap data is one of the first projects to be delivered by the new Geospatial Commission, in conjunction with Ordnance Survey. The aim is to continue to drive forward the UK as a world leader in location data, helping to grow the UK's digital economy by an estimated £11bn each year.

This is a step on a journey towards more open geospatial data infrastructure for the UK.

Chancellor of the Duchy of Lancaster and Minister for the Cabinet Office, David Lidington, said

> Opening up OS MasterMap underlines this Government's commitment to ensuring the UK continues to lead the way in digital innovation. Releasing this valuable government data for free will help stimulate innovation in the economy, generate jobs and improve public services.
>
> Location-aware technologies — using geospatial data — are revolutionising our economy. From navigating public transport to tracking supply chains and planning efficient delivery routes, these digital services are built on location data that has become

part of everyday life and business.

The newly available data should be particularly useful to small firms and entrepreneurs to realise their ideas and compete with larger organisations, encouraging greater competition and innovation.

OS MasterMap data already supports emerging technologies such as driverless vehicles, 5G and connected cities – important drivers of economic growth.

Today's announcement follows the launch of the first GovTech challenge in May this year – a competition designed to incentivise Britain's tech firms to come up with innovative solutions to improve public services. These competitions will be delivered using the £20m GovTech fund launched by the Prime Minister in November 2017.

Neil Ackroyd, Interim CEO of Ordnance Survey said:

Ordnance Survey holds the most accurate and comprehensive set of location data for Great Britain, making public sector services work more efficiently and helping to build innovative businesses across every sector of the economy.

Since its launch in 2001, OS MasterMap has been one of the most comprehensive and detailed geospatial reference datasets in the world. This latest development is another step on Ordnance Survey's open data journey. We're looking forward to supporting the Geospatial Commission in making this data more accessible and more widely used.

Read more information on the announcement [here.](#)

[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 code-breaker, 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 [Industrial Strategy](), 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 …
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 [Consumer Green Paper](), 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!