

Centre for Data Ethics and Innovation publishes world first roadmap to catalyse development of AI assurance ecosystem

- The UK government's Centre for Data Ethics and Innovation (CDEI) has published a roadmap setting out the steps required to build a world-leading AI assurance ecosystem
- By verifying that AI systems are effective, trustworthy and compliant, AI assurance services will drive a step change in adoption, enabling the UK to realise the full potential of AI and develop a competitive edge
- A mature AI assurance ecosystem has the potential to be a multi-billion pound industry in its own right, unlocking growth and thousands of new job opportunities
- AI assurance will be critical to realising the UK government's ambition to establish the most trusted and pro-innovation system for AI governance in the world, set out in the [National AI Strategy](#)

The Centre for Data Ethics and Innovation (CDEI), the government expert body enabling trustworthy innovation in data and AI, has set out the steps required to build a world-leading AI assurance ecosystem in the UK.

The roadmap, which was a commitment in the UK's [National AI Strategy](#), follows calls from public bodies including the [Committee on Standards in Public Life](#), and [industry](#), to build an ecosystem of tools and services that can identify and mitigate the range of risks posed by AI and drive trustworthy adoption. It addresses one of the biggest issues in AI governance identified by international organisations including the [Global Partnership on AI](#), [OECD](#) and [World Economic Forum](#).

Assurance services – like audit, certification and impact assessments – are common in other sectors, such as financial services and cybersecurity. These tools ensure that complex products are trustworthy and compliant with regulation, improving organisations' confidence to invest and delivering better outcomes for consumers. But assurance services for AI are currently relatively undeveloped.

The roadmap, which is the first of its kind, brings coherence to a fragmented and nascent ecosystem. It sets out the roles and responsibilities of different stakeholders, and identifies six priority areas for action:

1. **Generate demand for reliable and effective assurance** across the AI supply chain, improving understanding of risks, as well as accountabilities for mitigating them
2. **Build a dynamic, competitive AI assurance market**, that provides a range of effective services and tools
3. **Develop standards** that provide a common language for AI assurance

4. **Build an accountable AI assurance profession** to ensure that AI assurance services are also trustworthy and high quality
5. **Support organisations to meet regulatory obligations** by setting requirements that can be assured against
6. **Improve links between industry and independent researchers**, so that researchers can help develop assurance techniques and identify AI risks

The CDEI's research demonstrates that there is an opportunity for the UK to be a world leader in AI assurance, drawing on its strengths in legal and professional services, AI research and standards. It points to the leading role that the UK could play in developing and shaping global technical standards, which – alongside an effective ecosystem of assurance products and services – would facilitate cross-border trade by enabling interoperability between different regulatory regimes. Moreover, based on the growth of comparable industries, such as the [£4 billion cyber assurance industry](#), a mature AI assurance ecosystem has the potential to be a multi-billion pound industry in its own right, unlocking growth and thousands of job opportunities. The CDEI envisages that the UK will have a thriving AI assurance ecosystem within the next 5 years, with professional services firms providing a range of services alongside innovative start-ups and scale-ups.

The CDEI will take a number of steps over the next year to deliver on the roadmap, along with partners across industry, regulators and government. It will support DCMS and the Office for Artificial Intelligence as they work with stakeholders to pilot an AI Standards Hub, which will expand the UK's contribution to global AI standards. It will also partner with professional bodies and regulators in the UK to set out assurable standards and requirements for AI systems; and convene stakeholders, including through an AI assurance accreditation forum, which will bring together professional and accreditation bodies who need to play a role in the professionalisation of AI assurance.

The CDEI is actively looking to partner with organisations to deliver on the roadmap. The announcement follows the publication of [new guidance](#) on the use of AI in recruitment, developed by the CDEI in partnership with the Recruitment and Employment Confederation. The CDEI is also working with the government's Centre for Connected and Autonomous Vehicles to embed ethical due diligence in the future regulatory framework for self-driving vehicles, a [market set to be worth £42 billion by 2035](#).

Chris Philp MP, Minister for Technology and the Digital Economy at the Department for Digital, Culture, Media and Sport, said:

AI has the potential to transform our society and economy; and help us tackle some of the greatest challenges of our time. However, this will only be possible if we are able to manage the risks posed by AI and build public trust in its use. In the National AI Strategy, we committed to establishing the most trusted and pro-innovation system for AI governance in the world and building an effective AI assurance ecosystem in the UK will be critical to realising this mission. I'm delighted to see the CDEI's roadmap

published today, and look forward to working with stakeholders, from standards bodies to professional services firms, to make the vision the CDEI has set out a reality.

George Freeman MP, Parliamentary Under Secretary of State in the Department for Business, Energy and Industrial Strategy, said:

From medical diagnostics to machine learning to climate science, AI is fast becoming key to our economy and society. Next generation AI computing can deliver superfast decision support software, developing large benefits for industry and public services. The UK is one of the world's most advanced AI economies but public trust and data governance regulation are key to ensure AI systems are effective and trustworthy. Today's new AI roadmap – the first in the world – sets out how we can establish proper assurance and governance systems to unlock AI's full potential and develop a truly competitive edge as we build back better.

Rumman Chowdhury, Director of Machine Learning Ethics, Transparency and Accountability at Twitter and Member of the CDEI's Advisory Board, said:

AI presents a myriad of opportunities, but there are a range of harms that need to be addressed if we are to seize them. In order to achieve that goal, we need a thriving ecosystem of assurance products and services that can check AI systems are trustworthy and beneficial to all. The CDEI's roadmap makes a significant, early contribution to shaping and bringing coherence to this much-needed ecosystem, by setting out the roles that different groups will need to play, as well as the next steps that need to be taken.

Antony Walker, Deputy CEO of techUK, said:

Today's publication marks a key first step in operationalising the UK's National AI Strategy and the UK leading the way in how a world-leading AI assurance ecosystem and market can become a reality. We welcome the roadmap's ambition to give industry access to the tools and expertise needed to help build greater confidence along the AI supply chain, including amongst customers and citizens. But as this work moves forward, we must work hard together to ensure assurance checks are genuinely pro-innovation, proportionate and well aligned with existing standards and regulation. We look forward to working with the CDEI to deliver on the roadmap and continue to make the UK a world-leader in the development of trustworthy AI.

Matthew Fell, Chief Policy Director at the Confederation of British Industry,

said:

The UK is starting from a position of strength in the global race to become a world-leader in AI. These steps being taken by the government will help to embed trust in how AI is deployed, and support more businesses across the economy to capitalise on new opportunities. Ensuring we get the right AI governance in place will be essential to realising a pro-innovation UK.

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Notes to editors:

- The CDEI is a government expert body enabling the trustworthy use of data and AI. Its multidisciplinary team of specialists, supported by an [advisory board](#) of world-leading experts, work in partnership with organisations to deliver, test and refine trustworthy approaches to data and AI governance.
- In addition to the report titled 'A roadmap for the AI assurance ecosystem', the CDEI has today published an extended version of the roadmap, which provides further detail about the role of AI assurance in driving trustworthy adoption of AI, the six areas for action, and the follow up work the CDEI will be undertaking. It has also published an [assurance guide](#), which is focused on the delivery of AI assurance and aims to support practitioners and others using or providing AI assurance.
- The UK government recently published its [National AI Strategy](#), in which it set out an ambition to establish the most trusted and pro-innovation system for AI governance in the world. In the Strategy, it committed to publishing a White Paper in 2022, which will set out a national position on governing and regulating AI. The CDEI is supporting the Office for Artificial Intelligence as it develops the White Paper. The White Paper will highlight the role of assurance both as a market-based means of managing AI risks, and as a complement to regulation, that will empower industry to ensure that AI systems meet their regulatory obligations.
- In November 2020, the CDEI published its landmark [review into bias in algorithmic decision-making](#), in which it pointed to the need for an ecosystem of industry standards and professional services to help organisations address algorithmic bias in the UK and beyond.

- To develop the roadmap, the CDEI engaged widely, conducted multidisciplinary research, and worked with partners in the public, private sector and academia to run pilot projects. This included working with a team of researchers at [UCL](#) to investigate the audit and assurance of AI systems in industry.