Welsh Parliament
Economy, Trade and Rural Affairs Committee

AI and the Welsh Economy

Can Welsh androids dream of electric sheep?

May 2025

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About the Committee

The Committee was established on 23 June 2021. Its remit can be found at:
www.senedd.wales/SeneddEconomy

Current Committee membership:

Committee Chair:
Andrew RT Davies MS
Welsh Conservatives

Hannah Blythyn MS
Welsh Labour

Hefin David MS
Welsh Labour

Luke Fletcher MS
Plaid Cymru

Samuel Kurtz MS
Welsh Conservatives

Jenny Rathbone MS
Welsh Labour

The following Member was also a member of the Committee during this inquiry.

Paul Davies MS
Welsh Conservatives

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Chair's foreword

This was the last inquiry overseen by my predecessor as Chair, Paul Davies MS. The Committee decided to hold a one-day inquiry examining AI and its impact on the Welsh economy. AI is an emerging technology that could have a significant impact on Wales; however, to date, very limited thinking has been undertaken about AI's impact on our nation or what policymakers need to be doing to address it.

Whilst this was a short and sharp piece of work, the Committee heard a lot of interesting evidence. Some elements were exciting, like the visions of sustainable AI infrastructure powered by Welsh wind and cooled with our seawater. Others were more concerning, like the impact AI might have on certain parts of the labour force and the need to proactively support those who lose their jobs as a result of automation.

This report draws on that evidence to make eight recommendations based around ensuring the Welsh Government is planning and preparing for the potential changes AI could bring. This includes seizing the benefits of AI, for example by developing an AI action plan, looking at how it can support Welsh businesses to adapt to the world of AI and how it can support the development of Welsh AI businesses. But it also includes recommendations aimed at mitigating the potential negative impacts of AI, including ensuring there is proactive support for people in jobs most at risk from AI, and developing up to date policy and guidance to support good and prevent bad use of AI.

The title of this report is a nod to the Philip K Dick book which Blade Runner was based on. To continue that theme and to amend a famous Blade Runner quote - AI is either a benefit or a hazard. Welsh Government will need to assess different applications of AI and work out if that will be a benefit or a hazard. Where it is a benefit, Welsh Government and Welsh businesses must work to ensure we can maximise its positive impact. However, where it is a hazard, Welsh Government must act to mitigate risks and to ensure we are prepared.

I would like to thank everyone who gave evidence to the Committee as part of this inquiry. I would also like to again thank Paul for his work chairing this inquiry and all his work on the Committee.

Andrew RT Davies
Chair

Recommendations

Recommendation 1. The Welsh Government should develop an action plan setting out the approach it will take to maximising the potential benefits of AI, including specific actions relating to supporting businesses and the workforce, and development of AI infrastructure. Page 20

Recommendation 2. The Welsh Government should set out which areas of AI it considers Wales has a competitive advantage in, and how it will support Wales-based businesses in these areas of specialisation to develop and grow. Page 20

Recommendation 3. The Welsh Government should review what support is available to support businesses to adopt and benefit from AI, and identify where gaps exist. Resulting from this review, the Welsh Government should work with partners to address these gaps. Page 20

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Recommendation 7. The Welsh Government should assess which skills the workforce requires to enable Wales to maximise potential benefits from AI, and review the extent to which the workforce and future workforce have these skills. Where gaps are identified, it should prioritise working with partners to develop the necessary education and skills problem to address them. Page 32

Recommendation 8. The Welsh Government should build on its existing guidance in relation to AI and the workplace by:

- Working with partners to identify what further guidance is needed in the devolved public sector in relation to job quality and equality issues regarding AI and the workplace, and developing this.

1. Introduction

Background

1. In October 2024, the Economy, Trade and Rural Affairs Committee ('the Committee') agreed to carry out a short, exploratory inquiry into AI and the Welsh Economy.[1]

2. The terms of reference for the inquiry were to consider:

- to what extent businesses in Wales are making use of AI and planning to do so in the future;
- what potential economic opportunities and risks AI may present for Wales, and how these might vary across different parts of Wales and across different sectors;
- how AI is likely to affect jobs and workers in Wales, and what actions the Welsh and UK governments might need to take in response; and
- what skills are likely to be needed as a result of increased use of AI in the workplace, and how well placed Wales is to deliver these.

3. The Committee held a consultation from 25 October 2024 to 28 November 2024, and received 14 responses.[2] This was followed by a day of oral evidence sessions with key stakeholders on 5 December 2024.[3]

What is AI?

4. AI is a widely used term and often means different things to different people. Regarding a definition, the UK's national institute for data science and artificial intelligence (AI), the Alan Turing Institute, says:

> *There is no accepted definition of artificial intelligence or 'AI' but the term is often used to describe when a machine or system performs tasks that would ordinarily require human (or other biological)*

[1] Economy, Trade and Rural Affairs Committee, 16 October 2024
[2] The written responses we received may be read in full on the inquiry webpage
[3] Details of the oral evidence sessions, including links to the transcripts and Senedd.tv broadcasts, are available on the Committee's webpage and in Annex 1

> *brainpower to accomplish, such as making sense of spoken language, learning behaviours or solving problems.*[4]

5. Generative AI (sometimes known as GenAI) is a type of AI that can be used to create new content such as text, images, audio and video. Chat GPT, DeepSeek, Microsoft Co-Pilot and Midjourney are all versions of Generative AI and there are countless more. Generative AI is defined by the Alan Turing Institute as:

> *… a type of artificial intelligence that involves creating new and original data or content. Unlike traditional AI models that rely on large datasets and algorithms to classify or predict outcomes, generative AI models are designed to learn the underlying patterns and structure of the data and generate novel outputs that mimic human creativity.*[5]

A fast moving field – recent development

6. AI is an incredibly fast moving field. The evidence taken in this inquiry provides a snapshot of AI at the time and elements may have been superseded. The report reflects public policy announcements where relevant, however the Committee has not asked witnesses to update their evidence due to the fast-paced nature of AI development and subsequent policy responses. An overview of some key recent UK public policy developments are as follows.

7. On 19 December, the Workforce Partnership Council, a tripartite body comprised of devolved Welsh public sector employers, trade unions and the Welsh Government, published a benchmarking report on using AI[6] at work and guidance on managing technology that manages people.[7] These were provided to the Committee ahead of publication, to inform the evidence sessions the Committee held on 5 December. Members are grateful for the advanced sight of these documents and have referenced them in the development of this report.

8. On 13 January the UK Government published the AI Opportunities Action Plan developed by the Prime Minister's AI Opportunities Adviser Matt Clifford. This plan made 50 recommendations and the Government has responded to them.[8] Both the Action Plan and the related announcement of investment Data Centres,

[4] Turing.ac.uk Frequently Asked Questions
[5] Rigb.org Turning Lectures: What is generative AI?
[6] Gov.wales Using artificial intelligence at work
[7] Workforce Partnership Council, Managing technology that manages people: A social partnership approach to algorithmic management systems in the Welsh public sector, December 2024
[8] Gov.uk Prime Minister sets out blueprint to turbocharge AI, January 2025

including investment in Bridgend, are discussed in the infrastructure section of this report.

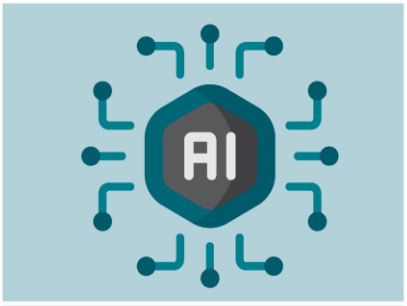
9. As well as the action plan the UK Government has:

- Announced that the UK's AI Safety Institute has been renamed the AI Security Institute. The institute's focus will be on tackling risks with security implications, such as how the technology can be used to develop chemical or biological weapons, and how it can enable crime. It will focus on these risks rather than bias or freedom of speech;[9]
- Delayed it's anticipated AI Regulation Bill. Introduction was anticipated by the end of last year; the Bill was expected to require AI models to be submitted to the AI Security Institute for testing. This Bill is now expected in "summer at the earliest" and there is less clarity on its content;[10]
- Set out the ambition for a separate forthcoming Cyber Security and Resilience Bill. According to UK Government this may "include new protections for more than 200 data centres – bolstering the defences of one of the main drivers of economic growth and innovation, including through AI."[11]
- The UK Government, alongside the US, did not sign[12] the Inclusive and Sustainable Artificial Intelligence statement[13], following the AI Action Summit held in Paris between 10-11 February.
- Signed an agreement with the AI firm Anthropic that includes sharing insights on using AI to transform public services, and using AI to drive scientific breakthroughs. They intend to make similar agreements with other leading AI companies to boost productivity and growth; and[14]
- Formed an AI Energy Council which includes representatives form energy companies, infrastructure providers and technology companies involved in AI. The UK Government say the Council is "focused on how the [UK] government's clean energy superpower mission, and its

[9] Gov.uk Tackling AI security risks to unleash growth and deliver Plan for Change, February 2025
[10] Computing Magazine, Government delays new AI Bill for six months, February 2025
[11] Gov.uk New cyber laws to safeguard UK economy and secure long-term growth, April 2025
[12] BBC: UK and US refuse to sign international AI declaration
[13] Elysee.Fr: Statement on Inclusive and Sustainable Artificial Intelligence for People and the Planet
[14] Gov.uk Memorandum of understanding between Anthropic and the UK Government on AI opportunities, February 2025

commitment to advancing AI and compute infrastructure, can work together to deliver economic growth."[15]

[15] Gov.uk AI Energy Council to ensure UK's energy infrastructure ready for AI revolution, April 2025

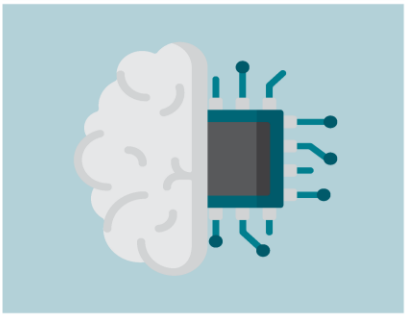


AI

"a range of algorithm-based technologies that solve complex tasks by carrying out functions that previously required human thinking" – **Information Commissioner's Office**

Generative AI

"a type of artificial intelligence that involves creating new and original data or content" – **Alan Turing Institute**



Machine learning

"A type of AI that allows a system to learn and improve from examples without all its instructions being explicitly programmed" - **POST**

Data centre

"a physical location that stores computing machines and their related hardware equipment" - **Amazon Web Services**

Algorithmic bias

"when systematic errors in machine learning algorithms produce unfair or discriminatory outcomes. It often reflects or reinforces existing socioeconomic, racial and gender biases". – **IBM**

www.senedd.wales

AI Infographic

2. Adoption of AI: implications for the economy and businesses

Adoption of AI

10. A survey by the London School of Economics and the Confederation of British Industry found that around a quarter of UK firms had invested in AI technologies, and a further 23 per cent plan to do so. It also found that IT and marketing and sales businesses were most likely to have invested in AI technologies.[16]

11. A survey by the Open University and British Chambers of Commerce found that over half of businesses (56 per cent) in Wales are not confident about applying new AI technologies.[17]

12. Last year, the Federation of Small Businesses ('FSB') found that 20 per cent of UK SMEs are using AI and that small businesses who plan to grow turnover/sales by over 20 per cent over the next 12 months are more likely to use AI. The FSB found that information and communication SMEs, and firms in in professional, scientific and technical sectors, are much more likely to use AI than SMEs in other sectors.[18]

13. Bowen, Dowell and Morris say there are relatively low levels of AI adoption by rural Welsh SMEs, and highlight that levels of AI adoption by Welsh SMEs are lower than in other parts of the UK. They argue that AI adoption in rural Welsh SMEs is mostly incremental, and that this approach can have dramatic benefits for these firms and their surrounding economies. Increased awareness of the advantages of AI could support greater adoption by rural SMEs.[19]

Case study: AMPLYFI

AMPLYFI is an AI-powered market intelligence company headquartered in Cardiff. They told us that:

"Amplyfi empower organisations to make better decisions through the analysis of high-quality content and unstructured data, to deliver business critical

[16] London School of Economics, What an LSE-CBI survey found about AI adoption in UK firms, July 2024
[17] The Open University, Almost half of Welsh businesses report skills shortage and lack confidence in AI and green tech, June 2024
[18] FSB, Redefining Intelligence: The Growth of AI Among Small Firms, March 2024
[19] Senedd Research, Understanding AI in rural SMEs: opportunities for Wales, January 2025

insights. This enhanced capability provides sustained advantages for our customers by delivering intelligence which is truly customised, structured and repeatable. Our team comprises experts in fields such as artificial intelligence, computer science and industry analysis."

Amplyfi's core offering is its Insights Automation Platform, built on the four pillars of content depth, content control, trustworthy AI and workflow integration. The platform is designed to "read and analyse" millions of documents weekly enabling our clients to make informed decisions, even amidst disruptive market conditions.

Amplyfi serves a diverse range of sectors, providing critical market intelligence to organisations across the globe. Our solutions are particularly valuable in industries that rely on accurate, timely information for strategic decision-making. These include:

- Finance
- Government
- Energy
- Professional Services / Consulting
- Legal
- Heavy Industry"

14. Dr Simon Thorne noted:

> *"While there is likely strong enthusiasm to adopt this technology, many organisations face significant barriers, including:*
>
> - *Skill shortages: A lack of technical expertise to implement and use generative AI effectively.*
> - *Governance gaps: The absence of robust frameworks to ensure safe and reliable use of the technology."*[20]

[20] Written evidence: Dr Simon Thorne

15. Witnesses highlighted interest in AI adoption from businesses in a wide range of sectors, including finance, tech, professional services, creative industries, manufacturing, security and cyber security, and sustainability/net-zero.

16. Delineate, a market and brand research company headquartered in Llandysul, told us that adopting AI and technology has made them a "viable business", allowing them to compete with much larger companies and "win business with global clients". However they warned:

> *"... for many large, more traditional organisations in our industry that did not embrace technological change but offshored as a way of delivering a more cost-effective service to client, they will see a more negative impact."*[21]

17. AMPLYFI warned that if Wales reacts slowly to AI then missed opportunities will present economic risks, as disadvantages will grow in comparison to other countries who have adopted AI more quickly.[22]

Economic implications

18. Academics agreed that increased adoption of AI would improve productivity.[23] Professor Alun Preece told us:

> *"I feel very, very strongly that we are not talking about human replacement, at least not for the foreseeable future. It's really about what I'd prefer to call intelligence amplification, or intelligence augmentation, and a lot of that boils down to allowing people to do more with the resources that they have, rather than be put out of a job."*[24]

19. FSB Wales agreed that AI "provides a very exciting opportunity for predominantly productivity and also potential growth".[25]

20. AMPLYFI said that use of AI is :

> *"... at maturity level 1, which is, essentially, where individuals are using it for personal productivity, and very high penetrations of that, across all age ranges. I think that what we're starting to see emerge is maturity level 2, which is where people are*

[21] Written evidence: Delineate
[22] Written evidence: AMPLYFI
[23] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraphs 10 - 13
[24] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 10
[25] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 130

> *starting to adopt the technology into work flows to drive productivity into process, and that's delivered some immediate benefits, which we can talk more about. And I think we're starting to see maturity level 3 emerge, which is where systems get redesigned on the premise of what the technology can do in the future."*[26]

21. TUC Cymru said that productivity benefits of AI can be fully realised "if workers and unions are part of the process of auditing the existing use of algorithmic management, being part of the procurement process, monitoring it as well".[27]

Specialisation

22. AMPLYFI said that as AI is too broad a field for Wales to compete across many areas, there is a need to specialise in particular areas of the AI supply chain based on existing capabilities. They suggest that potential areas of specialisation could include AI infrastructure such as compound semiconductors and water coolers; using renewable sources of energy to power data centres; building data centre-specific policies to promote energy efficiency; and focusing on "rapidly scaling, niche global applications that drive export potential".[28]

23. Dr Morgan Jones agreed that Wales should concentrate on areas where it can lead rather than follow. He said that renewable energy generation, rural economic development and Welsh-language preservation should be areas of focus.[29] The Welsh Language Commissioner also felt that AI offers "a great opportunity to expand and improve Welsh language services in all sectors". She noted that she will encourage organisations to take advantage of AI, while managing its risks.[30]

[26] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 126
[27] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 330
[28] Written evidence, AMPLYFI
[29] Written evidence, Dr Morgan Jones
[30] Written evidence, Welsh Language Commissioner

Supporting businesses and innovation

Case study – Hartree Centre Cardiff Hub

The Hartree Centre Cardiff Hub based at Cardiff University opened in 2023, and provides AI and data science support to SMEs located within the Cardiff Capital Region and Western Gateway. It is a regional extension of the Hartree National Centre for Digital Innovation, which is part of UK Research and Innovation. The Hartree Centre's hubs help businesses to explore and adopt AI and data analytics technologies for enhanced productivity, smarter innovation, and to deliver economic growth.

The hub focuses on three areas of emerging AI technology - human-centred AI where digital transformation is achieved through a mixture of human and machine intelligence; large-language models; and knowledge-driven learning focusing on how human knowledge can improve machine learning, which then generates new knowledge to drive better decision-making.

The hub offers three types of knowledge exchange – engagement, assists, and projects:

- Engagements involve SME attendance at briefing and networking sessions, including 'Demystifying AI' events;
- Assists provide around 12 hours of support to SMEs to look at a specific business problem or type of technology; and
- Projects are a 1 to 3-month collaboration with SMEs, enabling them to develop and test specific ideas.

As part of the support offered, SMEs receive free access to AI and data science research and expertise at Cardiff University.

In 2024, the hub engaged with 115 SMEs, provided 1,300 hours of AI assistance, and committed £125,000 AI support. Over three-quarters of SMEs supported are located within south Wales. The main sectors the hub has supported include creative, security, fintech, medtech and net-zero.

24. A number of witnesses highlighted the need for greater support for businesses to adopt and understand AI. Professor Setchi said that businesses need "practical help, practical advice, a place where they can go to talk about ideas". She suggested that the maker hubs developed for 3D printing were a useful example to follow.[31]

25. CreuTech noted that:

> *"There are not enough places where people can learn how to use it and bring that into their businesses, but it's also making sure that they're finding the right places that are giving them the right information that is ethical in its use as well."*[32]

26. Professor Preece highlighted a gap in the market following the initial support that bodies such as the Hartree Centre provide. He said that after this, businesses are reliant on sources of support such as Innovate UK and knowledge transfer partnerships, but these are somewhat patchy.[33]

27. FSB Wales told us that business support needs to be better aligned towards unlocking digital infrastructure including AI. They suggested considering how this could be done as part of an economic development agency.[34]

28. There were also calls for a joined-up and strategic approach to supporting businesses and AI sectors more generally. Professor Preece said that the creative sector offers a model that could potentially be used as a guide for AI business support. He told us it provides "joined up seed funding, development funding, scale-up funding, mirroring the pathways of companies".[35]

29. AMPLYFI told us:

> *"There are essentially three pillars that any sector needs to flourish. The first is access to talent, the second is access to capital, and the third is access to market".*[36]

30. They added that a clear strategy is needed for each of these layers, as while Wales is "doing most of the right things", "we're just not doing them in a joined-up and strategic way". They suggested that areas of focus need to be developing targeted support through giving high-potential opportunities "a special track that

[31] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 100
[32] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 137
[33] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 105
[34] Written evidence: Federation of Small Businesses Wales
[35] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 104
[36] Economy, Trade and Rural Affairs Committee, 5 December 2024, RoP, paragraph 205

gives them some certain advantages"; and providing more support in relation to accessing the market.[37]

31. FSB Wales argued that the Welsh Government needs to help address the R&D gap in relation to AI, and suggested it should consider what resources it has to attract major tech firms to locate their headquarters in Wales, to create a broader ecosystem that supports academic research and industry piloting projects. They told us that:

> *"... building up that broader ecosystem will help to sell Wales as the place to do that investment, and it will help, hopefully—. It should really be convincing UK Government that Wales is the best place to be doing it."*[38]

32. FSB Wales also noted that investment and development banks in other countries are using AI information management systems to analyse data submitted by SMEs applying for equity finance and loans. They called for the Development Bank of Wales to make greater use of this technology to improve how account managers interact with businesses, and in order to make better strategic decisions.[39]

Our view

It is clear that AI offers the opportunity for increased productivity and economic growth, and the Welsh Government needs to seize the opportunity to support businesses and workers to deliver this in a joined-up, strategic way. Within six months of the completion of its short-term review of AI and the economy, the Welsh Government should develop and publish an action plan setting out the steps it will take to maximise the economic benefits of AI. This should include specific actions to assist businesses to adopt and benefit from AI, aid the development of necessary AI infrastructure, and support the workforce through skills development and retraining for those at risk of job displacement.

AI is a broad field, and the Welsh Government needs to work with industry to understand which aspects Wales can take a lead in. It should set out which areas it believes Wales has a competitive advantage in, and how it will support Wales-based businesses in these areas to develop and grow. We have heard evidence that potential areas for specialisation could include compound semiconductors, using sources of renewable energy to power data centres,

[37] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 206
[38] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 187
[39] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 238

focusing on “niche global applications that drive export potential”, and rural economic development.

We heard of examples of good practice in supporting businesses to adopt AI. However, as you might expect at this stage of AI adoption, there are clearly gaps in the support available, and the Welsh Government must prioritise addressing these. To do this, it should review existing support to identify gaps in assistance available to businesses to adopt and benefit from AI, and work with partners to address these gaps.

Recommendation 1. The Welsh Government should develop an action plan setting out the approach it will take to maximising the potential benefits of AI, including specific actions relating to supporting businesses and the workforce, and development of AI infrastructure.

Recommendation 2. The Welsh Government should set out which areas of AI it considers Wales has a competitive advantage in, and how it will support Wales-based businesses in these areas of specialisation to develop and grow.

Recommendation 3. The Welsh Government should review what support is available to support businesses to adopt and benefit from AI, and identify where gaps exist. Resulting from this review, the Welsh Government should work with partners to address these gaps.

3. AI infrastructure

Infrastructure

33. The Committee heard a lot of evidence regarding the power and water resources required to support AI. Members also heard about the investment that might be required to develop strong AI infrastructure in Wales.

34. The Ada Lovelace Institute told the Committee:

> *"... generative AI systems take huge amounts of computational power to train, and that's hugely costly in terms of energy and water, so I think that's something that we need to factor in when we look at Wales's or the UK's climate and environmental targets."*[40]

35. CreuTech also highlighted this could be an opportunity for Wales due to our sustainable energy production capacity and landscape. They told Members:

> *"In Wales, we're great when it comes to sustainable energies, and the infrastructure that you're talking about requires a lot of power. I feel like we can utilise our sustainable energies here. And with the landscape, we've got access to the seas, to the waters, when it comes to cooling those machines down as well."* [41]

36. AMPLYFI supported the call for Wales to make the most of its "geographic benefits" and suggested the Welsh Government could develop a "fully sustainable supply chain for AI".[42] They pointed to developments in northern Norway, where the government has invested in AI infrastructure close to the source of hydropower. AMPLYFI also noted that heat generated from AI infrastructure is being used to heat Norwegian homes[43] and that the Norwegian Government offered incentives such as tax breaks and grants for technological innovation to attract investors.[44]

37. North Wales was highlighted as particularly suitable for these sort of developments. AMPLYFI told Members "you have the opportunity to put some of

[40] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 46
[41] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 182
[42] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 183
[43] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 183
[44] Written evidence, AMPLYFI

this infrastructure in north Wales, and take advantage of the natural landscape, the wind, the waves."[45]

38. In January the UK Government published an independent report – the AI Opportunities Action Plan. The plan recommends establishing AI growth zones to facilitate the accelerated build of AI data centres. The plan suggests that the UK Government could use these to channel investment into areas such as post-industrial towns and coastal areas that have existing energy capacity. It also suggests introducing a streamlined planning process and accelerating the provision of clean power.[46] The UK Government has accepted the AI Growth Zone recommendation, and announced that the first zone will be in Culham, Oxfordshire.[47]

39. On the day the Action Plan was published, the UK Government announced Vantage Data Centres plan to invest over £12 billion in data centres across the UK, including developing the former Ford site in Bridgend to become one of Europe's largest data centre campuses. The UK Government anticipate that Vantage's investment across the UK will create over 11,500 jobs, of which over 10,000 are construction jobs that will be created over the next decade and 1,500 are operational roles at data centres.[48]

40. On 10 February, the UK Government invited regional and local authorities to lodge expressions of interest for AI Growth Zones. They set a deadline of submission by 28 February ahead of the formal selection process which will start in the spring. The UK Government intends to focus these Zones on deindustrialised areas, and reported that "Interest is already building for high-potential sites in Scotland, Wales, the North East and North West".[49] In March the Secretary of State for Science, Innovation and Technology said that they had received "over 200 responses".[50]

Our view

We are concerned about the amount of energy and water AI will require. However, this challenge can also be seen as an amazing opportunity which, with our geography, Wales is in a prime position to realise. We were excited to hear about the Norwegian Government's work to use Norway's natural assets to help support the development of sustainable data centres and AI infrastructure.

[45] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 183
[46] Gov.uk Independent Report, AI Opportunities Action Plan, January 2025.
[47] Gov.UK AI Opportunities Action Plan: Government response, January 2025
[48] Gov.uk Prime Minister sets out blueprint to turbocharge AI, January 2025
[49] Gov.uk AI Growth Zones: Submit an expression of interest, February 2025
[50] Gov.uk Secretary of State Peter Kyle speech to Nvidia GTC 2025, March 2025

We feel the Welsh Government should take inspiration from Norway's work and look at how we can build a sustainable AI sector here in Wales. The Committee believes it is important Welsh Government works hard to address the challenge resource intensive AI creates and must take advantage of Wales natural geography to make an environment sustainable AI can thrive in, which in turn will support the Welsh Economy and good quality jobs.

Recommendation 4. The Welsh Government should set out how it intends to support any AI growth zones that are developed in Wales, including how it will help to address potential consequences around higher energy and water use.

4. Procurement

41. The Committee heard about the possibility of using procurement legislation, guidance and processes to influence how AI is used in Wales.

42. Wales TUC told the Committee:

> *"the future generations Act, and supplemented by what's in the social partnership Act, does give a route to improve the procurement route for AI, in particular the requirement that there is wider consultation taken into account, that future generations and social issues are taken into account. At TUC Cymru we held a workshop with procurement experts and with Connected by Data, to look at the potential of the legislation we have in Wales to be able to frame the buying of AI products in a more positive way. Welsh Government are working on the revised guidance that is related to the social partnership Act, and we'll be pleased to work with them on that. So, there is potential there in Wales that we can define what we require from algorithmic management and other technologies in a more positive way, certainly."*[51]

43. Professor Dencik told members her research found "... scope for developing procurement processes of digital services in line with the [Well-being of future generations] Act that places greater onus on AI providers to uphold standards of accountability, inclusion and diversity."[52]

44. She suggested the Procurement Centre of Excellence could be responsible for this, and that work should include exploring enforceable contract provisions for procuring digital and AI technologies. She suggested this would give procurement professionals greater leverage to make demands if they were legally binding.[53]

45. Wales TUC told Members it was important that "procurement officers have a good understanding" of AI including how the algorithms they are buying work. They suggested "that's a really big role that the Welsh Government could play in terms of improved training around how AI works, what the risks are, what

[51] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 351
[52] Written evidence, Professor Lina Dencik
[53] Written evidence, Professor Lina Dencik

questions to ask, the importance of having a human responsible for the decisions it takes."[54]

46. The Workforce Partnership Council guidance on managing technology that manages people addresses a number of points in relation to procurement of algorithmic management systems by devolved public sector organisations. It says that:

- Organisations should undertake a readiness assessment before making a decision to begin either a procurement or build process.
- Some uses of algorithmic management systems may be seen as inappropriate, unproven, disproportionately impacting individuals' rights, or creating risks that cannot be mitigated. Social partners may wish to agree a list in advance of any procurement, and add to it over time.
- Throughout the process, risks and rights should be considered in relation to health and safety at work, human rights, equality and protected characteristics, data protection, and employment law.
- Worker representatives should be encouraged to contribute their expertise, and given relevant advice or training to enable them to contribute to procurement and build processes.

47. Staff training should be discussed well in advance of implementation, particularly for anyone whose decisions will be supported or informed by an algorithmic management system. Training for the wider team may be desirable for transparency and wider understanding of how the system works."[55]

Our view

Whilst many of the AI policy leavers are held at UK Government level, and decisions around AI tend to be led by business working in the field, public sector procurement is certainly an area Welsh Government can and should focus on to ensure AI works properly for the people of Wales. As with many applications of AI, use through the public sector both creates opportunities and risks and a healthy balance must be struck. A more efficient public sector where staff, supported by helpful AI, can spend more time concentrating on the big challenges and supporting citizens is a future everyone would like to see.

[54] Economy, Trade and Rural Affairs Committee, 5 December 2024, Paragraph 294
[55] Workforce Partnership Council, Managing technology that manages people: A social partnership approach to algorithmic management systems in the Welsh public sector, December 2024

However, a public sector run by unaccountable, opaque and poorly understood algorithms will not serve the Welsh public and is something nobody wants.

Recommendation 5. The Welsh Government should consider how procurement of AI can be incorporated into its forthcoming guidance on the socially responsible procurement elements of the Social Partnership and Public Procurement Act 2023.

5. Skills and workforce

Potential job displacement

48. There is mixed evidence on how AI is likely to affect employment overall, although more consensus on which jobs are most likely to be impacted by AI.

49. In 2021, a report by PwC for the previous UK Government anticipated that, as well as causing job losses, AI will also create many new jobs, resulting in a broadly neutral long-term impact on employment for both Wales and the UK. The report projects that while Cardiff and, to a lesser extent, rural Wales will see increased employment due to AI, areas in the Valleys and north east Wales will see employment fall. The PwC report also suggests employment impacts of AI may favour higher earners, and those with higher levels of education and skills.[56]

50. The Institute for Public Policy and Research (IPPR) says 4.4 million jobs across the UK are at risk due to AI.[57] In a worst-case scenario, up to 8 million jobs could be at risk, over 20% of the current number of people employed.[58] The IPPR says administrative jobs, which have a mostly female workforce, will be most exposed in the first phase of generative AI development, while more high-paying jobs are expected to be affected in future phases.[59]

51. FSB Wales suggests AI use by small businesses could "eliminate jobs with routine tasks". A UK-wide survey undertaken by the FSB said that 15% of small businesses say AI could eliminate administrative jobs, although this may be offset by productivity gains and "space for other jobs based on different tasks".[60]

52. Ceri Williams told us that job displacement is a "major concern" for the trade union movement,[61] although TUC Cymru's written evidence also raises the difficulty in making predictions about what will happen to jobs in the future.[62]

53. Matt Buckley of the Communication Workers Union highlighted that at BT "there are 50,000 job losses expected there [before 2030]; 10,000 of those are

[56] PwC for UK Government, The Potential Impact of Artificial Intelligence on UK Employment and the Demand for Skills
[57] Institute for Public Policy and Research, Transformed by AI: How generative artificial intelligence could affect work in the UK – and how to manage it
[58] Office for National Statistics, Employment in the UK: March 2025
[59] Institute for Public Policy and Research, Transformed by AI: How generative artificial intelligence could affect work in the UK – and how to manage it
[60] Written evidence, FSB Wales
[61] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 261
[62] Written evidence, TUC Cymru

directly due to AI.[63] He also highlighted that over recent years there have been "major lay-offs at some of the biggest tech firms involved in rolling out and creating the AI that is being used elsewhere".[64]

Job quality

54. Trade unions and academics outlined concerns about how AI is impacting job quality. Professor Lina Dencik summarised these as concerns about "increased surveillance, job intensification and working conditions".[65]

55. TUC Cymru outlined four practical examples of negative consequences affecting job quality that groups of workers had faced as a result of AI being introduced into their workplace:

- Office workers experiencing monitoring and intensification of work through a new approach to scheduling.
- Drivers and delivery workers managed by AI systems, including systems that establish unrealistic targets for performance that workers struggle to meet.
- Creative workers fear their work will be used to generate supposedly new work by generative AI without their consent.
- Energy sector workers being made redundant after decisions made by AI.[66]

56. Matt Buckley suggested that "automation bias and overconfidence in automated systems" is a problem in the tech industry. He said:

> *There's no validation or verification that these systems work, that they actually result in better outcomes. But, regardless, there is a feeling of, 'This sounds like it should work, so surely it must. Surely someone has verified that this really results in increased productivity.'*[67]

57. The Workforce Partnership Council (WPC), a partnership of devolved public service employers, trade unions and the Welsh Government, has developed guidance on managing technology that manages people.[68] This identifies a

[63] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 263
[64] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 264
[65] Written evidence, Professor Lina Dencik
[66] Written evidence, TUC Cymru
[67] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 321
[68] Workforce Partnership Council, Managing technology that manages people

number of opportunities and risks associated with this technology. Opportunities include increased efficiency and productivity, better data-driven decision making and more efficient processes and teams. Risks include data protection and discrimination concerns, a lack of transparency around systems, negative wellbeing impacts, and the potential for a decline in the place of human judgement, expertise and connection in working relationships.[69]

58. To balance these, the WPC has agreed five general principles that should be followed by employers and unions. These are social partnership; the preservation and prioritisation of human interaction and oversight; adherence to the Welsh Government's definition of fair work; building capability regarding algorithmic management systems across all levels of the workforce; and a commitment to the protection and creation of jobs, and investment in the workforce.[70]

Impacts on equality and discrimination

59. A report for TUC Cymru by the Data Justice Lab concludes that "the disparate impact of AI on different workers is intricately linked to historical patterns of social and economic inequality that sees the already advantaged reap most of the benefits of AI whereas those already disadvantaged tend to be the most at risk of harm". It highlights that groups particularly likely to be affected include women, disabled people and ethnic minorities, and that younger and older workers are likely to be impacted by AI in different ways.[71]

60. Professor Dencik highlighted situations where AI has entrenched or created inequalities between different demographic groups, despite a perception that it can remove biases. She said that:

> *… (new) forms of discrimination and inequalities emerge with the use of AI in hiring. For example, so-called 'proxy' data can be used, either intentionally or unintentionally, to advantage or disadvantage groups with protected characteristics, such as age or gender. Furthermore, assessments may not account for diverse lived experiences.* [72]

61. The Equality and Human Rights Commission (EHRC) also raises concerns around AI bias in recruitment processes. It says there are risks at each stage of the process, for example around sourcing applicants through targeted online advertising, screening CVs, using voice and face recognition in interviews, and in

[69] Workforce Partnership Council, Managing technology that manages people
[70] Workforce Partnership Council, Managing technology that manages people
[71] Data Justice Lab for TUC Cymru, AI inequalities at work
[72] Written evidence, Professor Lina Dencik

selecting candidates. The EHRC says potential negative impacts are difficult to measure and prove, "for example, an individual may be unaware why their CV was screened out or that AI was used in the process".[73]

62. Professor Dencik also noted that a lot of AI systems are developed in the US, and use American discrimination law as their basis, which is different to the law in the UK. Therefore, she says firms are importing "a computational system that's designed under certain legal parameters that actually don't match the ones that are in place in the UK".[74]

Skills, training and workforce development

63. There was clear consensus from witnesses on the need to prioritise AI training and skills development. FSB Wales told us that among its members:

> *… there's an interest in adopting AI tools, but we also know that there's a high level of poor digital literacy in Wales as well, so looking at how our education institutions can now meet the demand of the economy, meet the demand of our firms is really, really key. And that's something that Welsh Government needs to be looking at.*[75]

64. Ceri Williams said "it's really important that workers have a better understanding of this", and highlighted the role that the Welsh Government could play in providing improved training, suggesting that this focuses on "how AI works, what the risks are, what questions to ask, the importance of having a human responsible for the decisions it takes". He also noted the responsibility of trade unions to help reps understand AI better.[76] Unions are starting to develop plans to support workers through the Wales Union Learning Fund.

65. Dr Simon Thorne said Wales needs to develop AI skills in three areas – general AI competencies such as skills for using AI tools; technical expertise such as programming and integration skills; and critical thinking to evaluate AI outputs for errors, bias or misinformation.[77]

66. Professor Setchi said that AI upskilling must be tailored to specific roles, for example those in analytical roles will need to learn different skills to software developers and those working in manufacturing. However, she believes that all

[73] Written evidence, Equality and Human Rights Commission
[74] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 309
[75] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 151
[76] Economy, Trade and Rural Affairs Committee, 5 December 2024, paragraph 294
[77] Written evidence, Dr Simon Thorne

employees will need training in ethical AI practices that "emphasize fairness, inclusivity, transparency in decision-making, accountability for outcomes, and ensuring safety and security".[78]

67. AI businesses raised the importance of Science, Technology, Engineering and Mathematics (STEM) skills and coding. AMPLYFI said STEM skills are key to a successful skills strategy, along with driving access to AI solutions to allow existing workers to undertake more/harder work with less effort.[79] Delineate also highlighted the importance of STEM and coding, saying that the reshaping of work across industries by AI makes it essential that the next generation of data scientists and software engineers have access to the relevant skills training.[80]

68. We also heard about examples of good practice. The Centre for Digital Public Services suggested that Finland is an example of good practice in relation to education and training provision.[81] Its approach includes working to guarantee digital literacy and understanding of basic AI across the whole population; providing free online courses to demystify AI; introducing degree and Masters-level courses in AI; and incentives and training for teachers to use AI in their courses and teaching methods.

69. FSB Wales highlighted work done by Northeastern University in the US to support freelancers. It has created AI tools to help freelancers organise, collect their own data, analyse work problems, and develop solutions.[82]

Our view

It's clear from the evidence we've received that AI will change our working lives significantly, although there is less clarity on how it will do so. There are different views on how jobs will be affected, and the extent to which AI will lead to job displacement and/or changes to how a job is performed. The Welsh Government should analyse the likely effects of AI on particular sectors, communities, and demographic groups. Based on its findings, it should then work with partners to develop tailored support for groups and communities who are most likely to be negatively impacted by job displacement due to increased use of AI in the workplace.

There is a clear consensus that the Welsh Government should prioritise supporting AI training and skills development. An early area of focus for the

[78] Written evidence, Professor Rossi Setchi
[79] Written evidence, AMPLYFI
[80] Written evidence, Delineate
[81] Written evidence, Centre for Digital Public Services
[82] Written evidence, FSB Wales

Welsh Government should be to develop a clear picture of the skills needed for Wales to maximise the potential benefits from AI, and to assess the extent to which the workforce and future workforce have these skills. Where gaps are identified, the Welsh Government should prioritise working with partners to ensure there is the necessary education and skills provision to address these.

The Welsh Government also needs to consider how it can build on the existing guidance and resources developed by the Workforce Partnership Council and the Centre for Digital Public Services to cover issues relating to job quality and equality. In relation to the devolved public sector, it should work with partners to identify further areas where guidance is required in relation to job quality and equality issues regarding AI and the workplace. The Welsh Government should also consider what guidance is needed on AI and the workplace to support businesses and private sector workers, and work with partners to develop this.

Recommendation 6. The Welsh Government should analyse which areas, sectors and demographic groups are most likely to be negatively affected by job displacement due to AI. Based on its findings, it should work with partners to develop and target tailored support for these groups.

Recommendation 7. The Welsh Government should assess which skills the workforce requires to enable Wales to maximise potential benefits from AI, and review the extent to which the workforce and future workforce have these skills. Where gaps are identified, it should prioritise working with partners to develop the necessary education and skills problem to address them.

Recommendation 8. The Welsh Government should build on its existing guidance in relation to AI and the workplace by:

- Working with partners to identify what further guidance is needed in the devolved public sector in relation to job quality and equality issues regarding AI and the workplace, and developing this.
- Considering what guidance on AI and the workplace is needed to support businesses and private sector workers, and working with partners to develop this.

Annex 1: List of oral evidence sessions.

The following witnesses provided oral evidence to the committee on the dates noted below. Transcripts of all oral evidence sessions can be viewed on the Committee's website.

Date	Name and Organisation
05 December 2024	**Matt Davies,** Ada Lovelace Institute **Professor Rossi Setchi,** Cardiff University **Professor Alun Preece,** Hartree Centre Cardiff Hub, Cardiff University **Paul Teather,** AMPLYFI **Klaire Tanner,** CreuTech **Felix Milbank,** Federation of Small Businesses Wales (FSB) **Professor Lina Dencik,** Goldsmiths University of London **Matt Buckley,** United Tech and Allied Workers, CWU **Ceri Williams,** TUC Cymru

Annex 2: List of written evidence

The following people and organisations provided written evidence to the Committee. All consultation responses and additional written information can be viewed on the Committee's website.

Reference	Organisation
AI01	Professor Lina Dencik
AI02	Federation of Small Businesses Wales (FSB)
AI03	Professor Rossi Setchi
AI04	AMPLYFI
AI05	Ada Lovelace Institute
AI06	Dr Morgan Jones
AI07	Equality and Human Rights Commission
AI08	Dr Simon Thorne
AI09	TUC Cymru
AI10	Welsh Language Commissioner
AI11	Delineate
AI12	Centre for Digital Public Services
AI13	Workforce Partnership Council
AI14	Cwmpas