

## THE IMPACT OF ARTIFICIAL INTELLIGENCE ON WALES

A FLEXIBLE, RESPONSIVE AND WORLD-LEADING SYSTEM OF TECHNOLOGICALLY INTEGRATED GOVERNANCE

Darren J. Edwards<sup>1</sup> & Dion Curry<sup>2</sup>

Department of Public Health, Policy, and Social Sciences, Swansea University, UK<sup>1</sup>

Department of Political and Cultural Studies, Swansea University, UK<sup>2</sup>

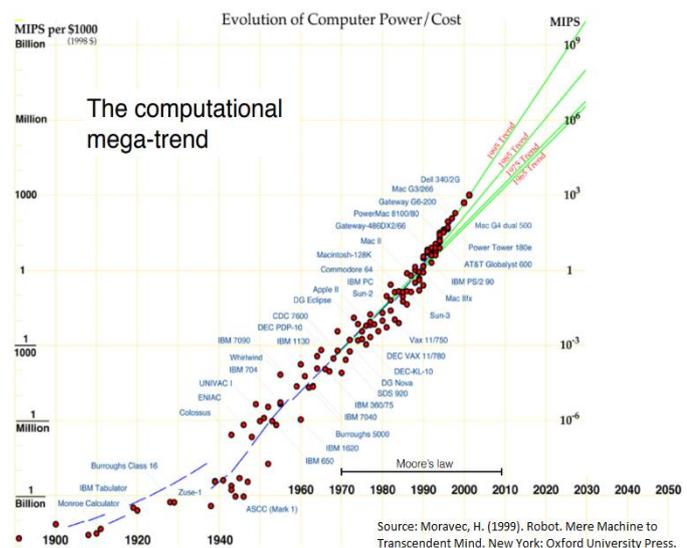
### Key points:

- The policy potential for Artificial Intelligence (AI) has increased rapidly, creating an opportunity for Wales to play a leading role in integrating AI in governance and decision-making.
- Successfully positioning Wales as an AI leader requires a flexible and responsive strategy to adapt to changing requirements in digital governance and a proactive identification of areas where Wales can most effectively contribute. This requires:
  - a) **Creating a standing expert group on digital governance, building on work already undertaken by Welsh Government and Senedd, allowing for rapid and evolving responses to changes in technology and governance;**
  - b) **Coordinating with related advisory groups such as the Innovation Advisory Council for Wales and the Wales Science & Innovation Advisory Council to ensure technologically joined-up governance;**
  - c) **Embedding AI perspectives in relevant policy, legislation and governance bodies.**

### POLICY ISSUE

The performance of computers has been increasing exponentially for decades,<sup>1</sup> allowing for more effective and affordable use of technology in governance and society. Artificial Intelligence (AI) has played an increasingly central role in these advances.<sup>2</sup> AI will continue to embed itself in many aspects of society, including key Welsh areas of competence like transportation (self-driving vehicles) and health (MRI machines, radiology and diagnostic tools). As such, Wales needs to develop a flexible and responsive strategy for integrating AI into policy-making.

It is vital for Welsh policy makers to identify long-term strategies for the continued growth in AI, across many fields of manufacturing, medicine, health, education, transportation, and other areas of society where AI will become embedded. These recommendations align with existing Welsh Government work on digital innovation and cohere with related bodies such as the proposed Future Economy Commission, the Innovation Advisory Council for Wales and the Wales Science & Innovation Advisory Council.



<sup>1</sup> McClelland, J. L. (2009). Is a machine realization of truly human-like intelligence achievable? *Cognitive Computation*, 1(1), 17-21.

<sup>2</sup> Osburg, T. & Lohrmann, C. (2017). *Sustainability in a Digital World*. New York: Springer.

## KEY POLICY GOALS

1. **Flexibility and responsiveness:** given the fast rate of change of technology and AI in society, Welsh government responses need to be more agile than simple legislative solutions;
2. **Cross-issue thinking and reskilling:** AI encompasses more than just digital policy and requires a reskilled workforce in areas not traditionally 'digital' in nature;
3. **Embedding of AI across sectors:** AI and digital research is relevant to many policy areas and must be considered in future legislation on all relevant issues.
4. **Ethical and Human-Centric approaches:** AI needs to be integrated in an ethical way that recognises and safeguards human well-being and data. The effects of AI, especially when used by private companies, needs to be monitored to avoid adverse effects on users.<sup>3</sup>

## KEY POLICY CONSIDERATIONS FOR AI

- Reskilling of workforce to meet new, highly skilled labour needs.
- Emotionally intelligent and ethical AI that supports and complements human labour, rather than replacing it.
- Improving public trust in AI automation and digital solutions.
- Transparency and knowledge of how AI applications can be used.
- Clarifying how AI links with other emerging technology like blockchain and 5G.

## POLICY RECOMMENDATIONS

### Short Term (1-2 years)

- ❑ Develop a strategic advisory group – including government, non-governmental, business and academic expert voices - to focus on the immediate and longer-term impact of AI on Welsh politics and society. This group should develop clear strategies, criteria and indicators for ensuring that AI is embedded in Welsh political debate.
- ❑ This advisory group should work alongside the proposed Future Economy Commission but act more as a responsive and agile body that can integrate with Welsh Government and Senedd research bodies to provide fast responses to policy issues. It also needs to coordinate with UK government-level policy and groups working on AI, such as the UK Parliament Artificial Intelligence Committee and the UK Government's Office for Artificial Intelligence.

### Medium Term (<5 years)

- ❑ Approaches to reskilling the Welsh workforce should continue along the lines laid out by the Wales 4.0 Strategy, emphasising AI's complementarity with existing Welsh industry.
- ❑ Use the work of the Strategic Advisory Group and other bodies to embed AI and digital issues within Wales governance processes at Committee and Plenary discussions on key topics.

### Long Term (10 years)

- ❑ Develop a clear governance model for digital policy development that sets a clear agenda, options, implementation and evaluation processes for monitoring the use of AI across sectors.

## RATIONALE

- ❑ The Wales 4.0 strategy<sup>4</sup> asks for £100 million in investment and this new, responsive approach fits that investment. The strategic group will work with the AI Institute for the Future Economy to embed AI and digital technology throughout Welsh Government and Senedd processes.
- ❑ It also aligns with the Well-being of Future Generations (Wales) Act (2015) and general Welsh policy that emphasises working effectively with people and communities and identifying emerging issues and their effects on Welsh society. As we move towards smart cities, and greater AI based automation, the Senedd and Welsh Government can embed digital thinking and AI into potential solutions for sustainable reductions in poverty, health inequality, poor health (e.g., dietary practices and other ways to achieve greater prosperity in Wales).

<sup>3</sup> Kramer, A. D., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *Proceedings of the National Academy of Sciences*, 111(24), 8788-8790; Zuiderveen Borgesius, F., Trilling, D., Möller, J., Bodó, B., De Vreese, C. H., & Helberger, N. (2016). Should we worry about filter bubbles? *Internet Policy Review. Journal on Internet Regulation*, 5(1).

<sup>4</sup> Welsh Government, (2019). 'Wales 4.0: Delivering Economic Transformation for a Better Future of Work'.