Intellectual Property Office's call for evidence on Artificial Intelligence ("AI") and intellectual property law

UNISON is the UK's largest union organising and representing 1.3 million members across all regions and devolved nations of Scotland, Wales and Northern Ireland.

Our members work in the public services, for public, private, private and voluntary contractors providing public services and in the essential utilities. They include frontline staff and managers, working full or part time in local authorities, the NHS, the police service, colleges and schools, the electricity, gas, environment and water industries, transport and the voluntary sector.

We highlight the importance of ensuring that any application of intellectual property law does not impinge on the ability of workers to influence the development of AI, and does not inhibit their understanding of how AI is applied to them at work.

UNISONs response is focused on the concerns and negative impacts that patents and trade secrets have on transparency, accountability, liability, data privacy rights and discrimination challenges in the use of intellectual property rights, patents and trade secrets to protect harmful algorithms and source codes used in public service data technology, AI tools and devices.

We would like to see the removal of the protections of commercial and trade secrecy when applied to public service data and AI services for the benefit of the public good.

Protection of workers rights from AI patents and trade secrets

1. Any application of intellectual property law must not impinge on the ability of workers to negotiate the development of AI through collective agreements nor inhibit their understanding and data rights of how AI is applied to them at work.

2. There must be regulation of the use of worker surveillance and monitoring technology in the workplace. UNISON has set out how trade unions can negotiate on the use of monitoring and surveillance in the workplace[1] and would like to see more regulation on this practice to protect workers privacy rights

    - This regulation should set out how these new management tools must be implemented within data privacy and data protection rights of workers. For example GPS tracking, random screen capture, typing rate software, digital wristbands, etc. are used to enhance worker

[1] https://www.unison.org.uk/content/uploads/2018/08/Monitoring-and-surveillance-at-work-08-2018.pdf

surveillance and monitoring over arrival/departure times, movements, productivity, schedules and toilet breaks. Taken to the extreme, workers' performance tracking and consequent data processing via algorithms can end up dictating workload, schedules, targets and ultimately defining pay and informing decisions on employment retention or dismissal. Such practices increase the psychosocial risks and stress in workers as work targets are automatically set by software and work schedules become rigid because of the elimination of human intermediation

3. The UK Office for Artificial Intelligence (OAI) stated in its latest guidance on applying AI in public services that "For people working in the public sector it means a reduction in the hours they spend on basic tasks, which will give them more time to spend on innovative ways to improve services."[2].

4. UNISON believes that this can be true but unless this transformation is managed and negotiated with trade unions through collective bargaining, workers will not benefit when it comes to working conditions, where digitalisation and AI promises to reduce working time on low value, tedious tasks and to enhance productivity by releasing workers to spend more time on more complex, higher value cases, developing into new roles and functions.

5. Digitalisation can also cause higher levels of working time, excessive workload, work intensification and stress, and increased management surveillance, especially if the introduction of new technologies is not properly prepared, implemented and monitored with the active participation of workers and their representatives. In addition, the over-reliance on computer-based services can be demeaning for workers and lead to a loss of motivation as their professional and social skills and their decision-making power become redundant or are undermined.

6. There is also much evidence that there needs to be more workforce negotiation on digitalisation and future AI on the impact of the workforce. The EPSU report[3] on the impact of digitalisation on job quality in the homecare workforce demonstrates for example, that digitalisation has real effects on many aspects of employment and its quality, as well as direct outcomes for workers, particularly on their physical and mental health. In particular in home care

   - Digitalisation is more limited to the use of digital tools to organise work and task planning but does not yet affect yet the core of the job or tasks as the impact of digitalisation mainly concerns the organisation and the planning of tasks
   - Workers emphasised the significant effects on physical and mental health, as well as increasing differences between colleagues at the

[2] https://www.gov.uk/government/collections/a-guide-to-using-artificial-intelligence-in-the-public-sector
[3] https://www.epsu.org/sites/default/files/article/files/FINAL%20REPORT%20EPSU%20DIGITALISATION%20-%20OSE%20June%202018.pdf

workplace, including a generational gap in mastering the necessary digital skills
- Workers underlined the weakness of the professional training received in connection with the use of digital tools and methods

7. UNISON believes that the digital working conditions and AI needs to be linked to workers' trust where they can take an active role in digitalisation and AI processes and be consulted and informed of new technology, and not be passive recipients or be enslaved to it. Trade secrecy makes this transparent, consultative and inclusive approach more difficult when adopting AI in the workplace.

8. The bottom-up participation and consultation of workers and their trade union representatives in meaningful involvement in prior impact assessments of AI is critical to secure workers' ownership and buy-in for any technological change and to increase the odds that digitalisation will have a positive impact on working conditions.

Patents and commercial protections in public service delivery

1. UNISON believes that patent law should not allow AI to be identified as either a sole or joint owner. The IP and patent laws should remain to strictly apply to human invention. With ADM human decision making should always be part of the decision making from the beginning at design stage, through continuous self-learning AI stages and at the end of the decision- making outcome.

2. Attempts to Patent AI should not be used as an opportunity to create an even more closed and commercial investment protection scheme which does not promote the public good. Instead the government should use the EU approach where transparent analytical tools can be used to separate human and AI cause of the creation of the output. Focussing on cause – creativity, originality and inventiveness - importantly protects and separate human creation and invention from machines.

3. UNISON sets out here why extending patents to AI would be harmful in public services due to the currently unregulated digital and AI environment:

a) There must be greater regulation to prevent harmful ADM processes and AI algorithm bias, error and discrimination in public service decision-making. The government needs to identify the contexts in which algorithms and AI accountability is needed, build the capacity of public authorities to make this accountability real and create open tools and workforce resources to monitor, and improve the use of automated decision-making in public services.

- Public Impact Algorithms are algorithms which are used in a context where they have the potential for causing harm to individuals or communities due to technical and/or non-technical issues in their implementation. Potential harmful outcomes include the reinforcement of systemic discrimination (such as structural racism or sexism), the introduction of bias at scale in public

services or the infringement of fundamental rights (such as the right to dignity)[4]

- In October 2019 the Guardian published that one in three local authorities were using algorithms in welfare and benefits decisions but by August 2020 some Councils were beginning to stop using them due to their unreliability and challenges of bias. However in October 2020[5] it reported that nearly half of councils were still using algorithms to make decisions even though they admitted they were not accurate and the public had not been consulted.

- This uncertainty and inappropriate implementation of AI is largely because there is little guidance for public services in administrative law, data protection law and a lack of a full understanding of the arbitrary nature of some of the inputs and instruction in the AI being deployed due to patents and commercial secrecy and how important human oversight is in the decision making outcomes.

b) You have four key stages of building AI decision-making technology before it gets implemented in public services: An algorithm designer, a programmer, a seller and a public service buyer. There must be core public service ethics applied throughout theses stages in promoting the incentive of a good public service outcome.

- Local authorities are under pressure due to austerity to make efficiencies savings and as a result a range of private companies are selling machine-learning packages to local authorities without any real understanding of how these algorithms work, little transparency and monitoring and with the wrong incentives weakening the promotion of the public good.

- If we look also at the recent successful challenges made to the algorithms used in the Home Offices immigration system and autumn 2020 Exam results[6], it is clear that discrimination cases will only increase until clear legislation and guidance on AI in public services is put in place.

- UNISON would like to see AI and algorithmic use in public services have less full automation emphasis and involve specific training of the workforce in the importance and application of human oversight of data and AI technologies in the workplace to ensure proper procedures are in place and monitored.

- According to the Article 29 Data Protection Working Party, "To qualify as human involvement, the controller must ensure that any oversight of the decision is meaningful, rather than just a token gesture. It should be carried out by someone who has the authority and competence to change the decision. As part of the analysis, they should consider all the relevant data". The extent of human intervention should be recorded in the public body's Data Protection Impact Assessment ('DPIA')[7]

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[4] https://okfn.org/justice

[5] https://www.theguardian.com/society/2020/oct/28/nearly-half-of-councils-in-great-britain-use-algorithms-to-help-make-claims-decisions

[6] https://www.theguardian.com/education/2020/aug/13/almost-40-of-english-students-have-a-level-results-downgraded

[7] GDPR, art 35; Recitals 84, 91-94;

c) UNISON would also like to see the secrecy and patent protections around public service algorithms removed to guarantee more equality outcomes. The barriers of the so called 'black box' which impede understanding of the harm caused by some algorithms must be removed. There are three key black box barriers that have been identified[8]

- intentional opacity, where the system's workings are concealed to protect intellectual property
- illiterate opacity, where a system is only understandable to those who can read and write computer code
- intrinsic opacity, where a system's complex decision-making process itself is difficult for any human to understand.

- Currently under GDPR obligations under 3 key articles 21, 6 ,22 it only says that the data provider must provide an explanation that is meaningful about the logic involved but is not obliged to give a complex disclosure of the full algorithms

- Public authorities currently, rather than machines, remain responsible in law for any decisions which involve artificial decision – making (ADM). This is because they are responsible and accountable for the lawfulness of their decision-making whether involving ADM in some way or not. Public authorities are required to meet administrative law's standards when using ADM just as with human decision-making, and that an unlawful decision made by or with the assistance of ADM should be dealt with by law as it would with a similarly unlawful decision been taken by a human.

- Legal problems that will need to be addressed are what should and does not need to be provided if there is an equality or human rights challenge to a public service decision involving ADM?

- An algorithm decision can be based on up to 2000 interconnections, so the argument is that there should be full complex disclosure of the methodology and the end to patent and IP commercial protections in public service ADM technology.

- UNISON supports four key mechanisms to open the "black box" to "see" if discrimination is happening: Publicly available equality monitoring information; Data donation/sharing; GDPR; Lack of transparency shifting the burden of proof[9]

- This would mean that any equality and discrimination challenge of the application of ADM in public service delivery can be more easily identified and remedied, more efficient service delivery could be better achieved with targeted ADM for certain service users, and the transparency of the algorithm

[8] J Burrell 'How the machine 'thinks': Understanding opacity in machine learning algorithms' (2016) Big Data & Society; J A Kroll, J Huey, S Barocas, E W Felten, J R Reidenberg, D G Robinson, and H Yu 'Accountable Algorithms' (2017) 165 University of Pennsylvania Law Review; F Pasquale The Black Box Society: The Secret Algorithms That Control Money and Information (Cambridge, MA: Harvard University Press, 2015) 11 R van den Hoven van Genderen 'Privacy and Data Protection in the Age of Pervasive Technologies

[9] https://ai-lawhub.com/blog/

and ADM process could assist in identifying what specifically has caused the breaches in litigation and liability cases.

Trade secrets questions in public service delivery

1. UNISON does not support the use of trade secrets in the application of AI technologies in the public sector. Like commercial secrecy and patents they can cover up harmful outcomes and create health and safety risks to the public.

2. Not only could you be challenging a digital and AI company on providing transparency of their algorithms and source codes but you could also be challenging them on revealing their trade secrets if there is a discriminatory outcome in decision making in public service delivery and even more serious if actual harm occurs to service users

3. An example we would like to use is on Medical devices that contain algorithms and source codes. Currently the government is having a two year consultation on the application of AI medical devices and yet private commercial protections via, patents and IP and trade secrets are already being written into trade deals which can override the UK national consultations unless exempted.

4. UNISON has long called for the exemption of public services and particularly health from all chapters in trade deals. We extend this to include all health and social care data and IT technology.

5. UNISON would like to see that health and social care data driven technology are removed from trade agreements and in particular in e-commerce chapters where IP, Patents and commercial and trade secrets are promoted. This would include medical devices, health data processing services and IT systems, trade in medical algorithms, data technology or other health and social care AI devices

6. UK Trade agreements must not include any provisions that allow for the undermining, restriction or limitations on the domestic right for UK appropriate regulatory bodies to protect or restrict harmful international free flow and use of digital health and social care data.

7. The UK government must exempt or 'carve out' e-commerce provisions in health and social care commissioning of data, health data processing services and IT systems for commissioners, analysts, and clinicians in relation to patient data, public health data and publicly provided social care data relating to UK citizens.

8. Furthermore trade agreements must specifically exclude NHS and care data from ISDS, ratchet clauses and standstill clauses regarding data access and processing in relation to public health data for the purpose of research, planning and innovation.

9. This would protect public funded health data processing services for which NHS England/NHS Improvement and NHS Digital has policy making responsibility from any form of control from outside the UK. It would also

ensure that the government retains control of access to health data for the purpose of research, planning and innovation according to its own priority policies and associated regulations.

For further information on UNISONs Digital and AI policy please contact

[redacted]