



February 14, 2019

**Respectfully to: Council for Science, Technology and Innovation, Cabinet Office**

## **BSA COMMENTS ON DRAFT SOCIAL PRINCIPLES ON HUMAN-CENTRIC AI**

### **Statement of Interest**

BSA | The Software Alliance (**BSA**)<sup>1</sup> thanks the Cabinet Office for the opportunity to submit comments on the Draft Social Principles on Human-Centric AI (**Draft Principles**).

BSA is the leading advocate for the global software industry before governments and in the international marketplace. Our members are at the forefront of software-enabled innovation that is fuelling global economic growth, including cloud computing and AI products and services. As leaders in AI development, BSA members have unique insight into both the tremendous potential that AI holds to address a variety of social challenges and the governmental policies that can best support the responsible use of AI and ensure continued innovation.

BSA welcomes the Draft Principles. They provide an insightful and important articulation of how principles and policies surrounding AI development and utilization should place humans at the center of these considerations. The Draft Principles also provide an appropriate and balanced discussion on how AI innovation can enhance human dignity and support sustainable development goals.

The responsible use of AI has the potential to spur tremendous economic growth across every sector, improve human decision-making, and enable cutting-edge breakthroughs on some of the world's most pressing challenges. Conversely, AI services that are not developed or used responsibly, like other ground-breaking innovations, create a risk of unintended consequences or malicious uses. Governments are therefore rightly focused on developing thoughtful policies to address both the opportunities and risks associated with AI.

BSA and its members are attuned to these challenges and are committed to developing AI in a manner that will maximize the benefits and minimize the risks associated with the deployment of the technology. BSA has published a range of materials related to AI, including AI Policy Principles, an AI Primer, and examples of AI being applied in different sectors.<sup>2</sup>

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<sup>1</sup> BSA's members include: Adobe, Akamai, Amazon Web Services, Apple, Autodesk, AVEVA, Bentley Systems, Box, Cadence, Cisco, CNC/Mastercam, DataStax, DocuSign, IBM, Informatica, Intel, MathWorks, Microsoft, Okta, Oracle, PTC, Salesforce, Siemens PLM Software, Slack, Splunk, Symantec, Synopsys, Trend Micro, Trimble Solutions Corporation, Twilio, and Workday.

<sup>2</sup> <https://ai.bsa.org/>

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BSA has also worked closely with governments around the world on AI policy development and has provided strategic advice from industry's perspective on how government policy approaches should encourage responsible use of AI in order to foster trust among businesses and consumers and ensure continued innovation.

In our view, the Draft Principles represent an important and positive step towards addressing responsible development, deployment and use of AI. The Draft Principles' recognition that multiple stakeholders have important roles to play in unlocking the full potential of AI is a critically important insight. Ultimately, advancing the vision of "Society 5.0" will require an all-of-society approach. To that end, we are strongly supportive of the goal of developing Social Principles to help promote an "AI-Ready society." We offer below a series of recommendations to help advance this vision. These recommendations are summarized in the following paragraph, with more details set-out in the **Annex**:

1. **AI principles should be flexible** to account for context-specific nuances that are implicated by specific use cases and for the multiple stakeholders involved in the development, deployment, and use of AI;
2. **Multi-stakeholder engagement processes and structures are critical** to the development of sound AI policy;
3. **AI principles should promote market access and technology-neutrality** to create a robust and competitive AI ecosystem;
4. **AI principles should explicitly ensure the free movement of data within and across borders**;
5. **AI principles should take a "risk-informed" approach to privacy that avoids over-prescriptiveness and maintains focus on preventing actual harms**;
6. **AI principles should promote security and incorporate safety as a fundamental component of trust in AI tools**;
7. **AI principles should acknowledge that there is no one-size-fits all approach for achieving fairness, accountability, and transparency in AI systems**; and
8. AI Principles should promote innovation by increasing the **availability of non-sensitive government data and eliminating barriers to data analytics**.

We would like to thank the Cabinet Office again for the opportunity to comment on the Draft Principles. We appreciate your kind consideration of our above comments. For any questions or if any point of clarification is required on any part of this submission, please feel free to contact us.

## Annex: Detailed Recommendations

Paragraph (Pg. No)	Recommendations/Comments
<p>Section 2, Pg. 3: on <b>Dignity, Diversity and Inclusion, and Sustainability</b></p>	<p>BSA strongly agrees that AI systems and applications should be developed, deployed, and used in ways that <b>promote Dignity, Diversity &amp; Inclusion, and Sustainability</b>. BSA supports broad access to the benefits of AI, particularly because many applications of AI will contribute greatly to improving underserved members of society.</p> <p><b>Recommendations:</b></p> <p>BSA recommends including:</p> <ul style="list-style-type: none"> <li>• Acknowledgement that AI principles should be flexible enough to account for context-specific nuances, including considering the differences between uses that are consumer-facing and those that are developed as enterprise solutions or that use data solely from machine-to-machine communication.</li> </ul>
<p>Section 3, Paragraph 1, pg. 4, on the need to consider <b>“interaction with technological progress”</b>;</p> <p>and</p> <p>Section 3, Paragraph 6, pg.4, on <b>“Social Systems”</b></p>	<p>BSA supports the Draft Principles’ recognition that AI principles should be applied to the entire “social system” including multiple sectors (e.g. medical, financial, and energy) and should be flexible, so that the respective sectors can evolve and cope with the evolution of AI technology and its unique effects on these sectors.</p> <p>Principles and policies directed at AI should take into account the diverse set of underlying technologies and use cases that comprise the AI ecosystem. Exciting and beneficial new applications of AI are constantly being developed, making it difficult to predict the full range of potential uses cases. It is therefore important that any principles or considerations identified at a single point in development time not remain static but evolve as the technology and its application develops. Hence a principles-based approach to governing AI is preferred to one that involves binding regulation.</p> <p><b>Recommendation:</b></p> <ul style="list-style-type: none"> <li>• The Draft Principles should include overt recognition that AI principles should be flexible enough to account for the multiple stakeholders involved in the development, deployment, and use of AI, and the context-specific nuances that are implicated by the diverse range of AI applications (e.g., including considering the differences between uses that are consumer-facing and those that are developed as enterprise solutions or that use data solely from machine-to-machine communication).</li> </ul>
<p>Section 3, Paragraph 8, pg. 5, on the need to create <b>“industry structures”</b> that</p>	<p>BSA supports the recognition that industry structures should be “flexible and open internationally.”</p>

<p>are conducive to innovation and internationally open</p>	<p><b>Recommendations:</b></p> <ul style="list-style-type: none"> <li>• As an overt recognition of the importance of the digital economy and trade policies that drive job creation, competitiveness, and innovation, the Draft Principles should include a broad principle that there should be <b>no market access barriers and no discrimination against innovative AI applications and services.</b></li> <li>• In addition, policies should also support <b>the free movement of data across borders</b>, given the importance of international data transfers to the development of AI. In addition, free movement of data also allows for businesses at every level, including small and medium business, to have access to cutting-edge AI services, many of which rely on the seamless international transfer of data.</li> </ul>
<p>Section 3, Paragraph 12, pg. 5 on the establishment of an agile system of “diverse stakeholders” to be engaged on AI governance issues; and paragraph 13 on “international collaboration systems”.</p>	<p>BSA welcomes the document’s focus on multi-stakeholder involvement. As AI systems are used in many different ways, it is important to ensure that best practices and recommendations are developed in collaboration with all involved stakeholders, and grounded in the necessary technical considerations. In addition, such best practices and recommendations should incorporate an international view.</p> <p><b>Recommendation:</b></p> <p>The document can include further consideration on the importance for governments to put in place specific process or structures that ensure multi-stakeholder engagement as AI policies or regulations are developed. For example, encouraging the introduction of an advisory council, or other public-private collaborations, to advise on the development and review of relevant principles as technologies develop.</p> <p>In addition, this document should also include a statement on the importance of aligning domestic efforts to internationally-recognized standards and principles.</p>
<p>Section 4.1(3), pg. 7 and 8 on Privacy</p>	<p>BSA supports the implementation of privacy practices that protect individual rights and build trust in AI systems and applications. Privacy best practices include those that increase the transparency of personal data collection and use; enable and respect informed choices by providing governance over that collection and use; provide consumers with control over their personal data; provide robust security; and promote the use of data for legitimate business purposes.</p> <p>Frameworks for privacy best practices should be risk-based, principle-driven, and eschew overly prescriptive requirements. Incorporating flexibility into such frameworks will ensure individuals are able to exercise appropriate control over their personal information and, at the same time, not stymie the ability of companies to provide innovative products and services.</p>

	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>Sub-Paragraph 3 rightly recognizes that personal data should be “properly protected according to its importance and sensitivity.” Other portions of this section would benefit from a better alignment with this important principle. For instance, we recommend a clarification in Paragraph 1 that not all forms of AI pose heightened risks regarding the use of personal data. Rather than suggesting that “more careful treatment of personal data” is needed in the context of AI writ large, it would be helpful to clarify that heightened scrutiny is warranted in circumstances where AI could consequentially “affect the rights and benefits of individuals.” Rather than focusing on the nature of the data itself, or the particular technology or system managing the data (e.g. AI), the Draft Principle should instead focus on the risk of harm to the individual.</li> </ul> <p style="text-align: center;"><b><i>In cases where the use of AI could result in greater risk of harm to individuals, mechanisms or frameworks should be put in place to address such scenarios.”</i></b></p> <ul style="list-style-type: none"> <li>As currently drafted, Sub-paragraph 2 suggests that all AI systems should include a mechanism for ensuring accuracy and enabling users to be “substantially involved in the management of his or her data.” While we support the Sub-paragraph 2 recommendation in principle, we suggest that it too should be revised to allow for a risk-informed approach to determining whether (and what types of) redress mechanisms are needed to address potential risks of consequential harm that a specific AI system poses.</li> </ul> <p><b><u>We recommend the following modifications to Sub-paragraph 2:</u></b></p> <p style="text-align: center;"><b><i>“AI that uses personal data should <del>have a fair mechanism</del> incorporate mechanisms that ensure to address risks of consequential harms to the public. Such mechanisms may include tools to ensure accuracy and legitimacy and enable the person <del>himself/herself to be substantially involved in the management of his or her</del> privacy exercise control over their personal data where appropriate”</i></b></p>
Section 4.1(4), paragraph 1, pg.8 on Security	BSA is a strong advocate of cybersecurity and resilience. As AI and other digital technologies increasingly enable a globally connected economy, we recognize that society must be vigilant in addressing increased security risks. BSA advocates for policies that strengthen enhanced security measures outlined in our International Cybersecurity Policy Framework. <sup>3</sup> While we broadly support the Draft Principles’ discussion on Security, we suggest

<sup>3</sup> [https://bsacybersecurity.bsa.org/wp-content/uploads/2018/04/BSA\\_cybersecurity-policy.pdf](https://bsacybersecurity.bsa.org/wp-content/uploads/2018/04/BSA_cybersecurity-policy.pdf)

	<p>the following improvements:</p> <ul style="list-style-type: none"> <li>Paragraph 1, on the <i>impossibility of AI systems to respond to “rare events or deliberate attacks.”</i> In an effort to future-proof these principles, it is helpful to avoid staking out absolute positions about the potential for AI to address specific problems. It may be more accurate to instead state the following: <ul style="list-style-type: none"> <li><del>“within the scope of today’s technologies, it is impossible for there may be circumstances where AI is unable to respond appropriately to...”</del></li> </ul> </li> <li>BSA is fully committed to the highest standards in AI development and deployment. Trust can only be earned through safety in practice. We recommend also including the concept of “safety as a fundamental component of trust in AI tools.”</li> </ul>
<p>Section 4.1(5), pg. 8 on fair competition</p>	<p>BSA supports policies that foster fair competition among trading partners and between private firms. AI remains a burgeoning field with quickly evolving market dynamics. Domestic competition policies should therefore remain technology-neutral, avoiding the creation of AI-specific rules. International competition for AI services should be encouraged by eliminating barriers to digital trade and ensuring that foreign markets are kept open. This includes ensuring that cross-border data transfers are permitted, and that data localization mandates and other protectionist measures that favour domestic technologies and producers are prohibited.</p> <p>We recommend the following in particular:</p> <ul style="list-style-type: none"> <li>Promote competition by ensuring the free movement of data within and across borders. Given the importance of cross-border data to the modern economy, governments must use privacy or security policies only as necessary, and never as disguised market access barriers.</li> </ul>
<p>Section 4.1(6), pg. 8 on fairness, accountability and transparency</p>	<p>BSA agrees that the principles of fairness, accountability, and transparency (<b>FAT</b>) are critical to the development of trustworthy AI. BSA members are constantly developing and updating policies and technological solutions to reduce the impact of bias in AI processes — as well as any other processes — to ensure trust and confidence in their products. BSA members are fully committed to ensuring that AI systems respect fundamental rights and norms.</p> <p>The ideal mechanisms for building FAT into any particular AI system will vary depending on a variety of factors, so guidance on these issues must remain sufficiently flexible to accommodate different use cases and means of deployment. For instance, the level of transparency that is necessary to support public trust in an AI system that provides restaurant recommendations based upon user-inputted criteria is unlikely to require an intricate level</p>

	<p>of transparency or explanation. In contrast, when an AI system is deployed in a context that affects consumers' eligibility in consequential areas, such as access to credit or housing, the public will rightly have far greater expectations about the effectiveness of measures the system's developer has implemented to ensure the systems decisions are consistent with high standards of fairness, accountability, and transparency.</p> <p>It is also important to recognize that there may be contexts in which efforts to safeguard one ethical principle might come at the expense of others. For instance, there may be circumstances in which design choices aimed at preserving the fairness and accountability of an AI system could involve trade-offs with the degree to which the underlying model can be made transparent or explainable to the public. For example, in designing a fraud detection system, the need to ensure that it is operating in an accurate and unbiased manner may necessitate limited disclosures to the public about how it operates. Indeed, there are instances where too much transparency can have the unintended consequence of making an algorithm vulnerable to manipulation. Moreover, research has shown that disclosing the algorithms, source codes, or associated data sets is ineffective in helping to provide explanations, in part because they cannot be meaningfully understood in isolation.</p> <p><b>Recommendations:</b></p> <p>Sub-paragraph 3, on "<i>appropriate explanations should be provided...</i>", is overly prescriptive and sits at odds with the rest of the document that is principle-based. We recommend the sub-paragraph instead state that "<del>appropriate explanations should be provided such as</del> <b>assessments for what is an appropriate level of explanation should be carried out, and such explanations may include</b> the fact that AI is being used...".</p>
<p>Section 4.1(7), pg. 9 on Innovation</p>	<p>Data is critical to the development of AI. As a result, a sound approach to data policy is intrinsically linked to the ability for societies to innovate and apply AI. BSA has written about the need for sound data policy to spur AI innovation, providing key recommendations.<sup>4</sup> In particular, government data sets are a resource that can improve the training of AI models, create more inclusive societies, and serve as a catalyst for economic growth. It is likewise important to eliminate unnecessary barriers that may prevent researchers from harnessing data to which they have lawful access for the purpose of training AI systems.</p> <p><b>Recommendation:</b></p> <p>In addition to addressing issues related to efficient collection and maintenance of data utilized by AI, the Draft Principles should encourage governments to <b>make non-sensitive data freely available to the public in machine-readable formats.</b></p>

<sup>4</sup> See [https://ai.bsa.org/wp-content/uploads/2018/05/BSA\\_2018\\_AI\\_DataPolicy.pdf](https://ai.bsa.org/wp-content/uploads/2018/05/BSA_2018_AI_DataPolicy.pdf)

	<p>The Draft Principles should also acknowledge the importance of ensuring that AI researchers are able to use content and data to which they have lawful access for training AI algorithms and performing data analytics and digital analysis.</p>
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