



Establishing a pro-innovation approach to regulating AI - BCS Briefing

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BCS

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This document

This is the BCS briefing on the UK government's policy paper '[Establishing a pro-innovation approach to regulating AI](#)'. It also includes expert observations on the policy paper from Adam Leon Smith, CITP (Chartered Information Technology Professional) FBCS (Fellow of British Computer Society) and Chair of the BCS Software Testing Specialist Group; see Section 7 for further details.

The policy paper was published on July 18, 2022. It discusses how government can establish clear, innovation-friendly, and flexible approaches to regulating AI and how the regulatory regime will be able to keep pace with and respond to new and distinct challenges and opportunities posed by AI.

1. Intention of the regulatory proposals

The intention is that future regulation of the use of AI systems will help

- drive business confidence
- promote investment
- boost public trust
- drive productivity across the economy
- and be risk-based and proportionate

2. A new framework for regulating AI

The government is proposing to:

- establish a framework for regulating AI, which is underpinned by a set of cross-sectoral principles tailored to the specific characteristics of AI

3. How the framework will be used to regulate AI

The government proposes to:

- regulate AI based on its use and the impact it has on individuals, groups, and businesses within a particular context
- delegate responsibility for designing and implementing proportionate regulatory responses to regulators

- focus on addressing issues where there is clear evidence of real risk or missed opportunities
- require regulators to focus on high-risk concerns rather than hypothetical or low risks associated with AI
- regulators will be required to consider lighter touch options, such as guidance or voluntary measures, in the first instance

4. Two key AI characteristics that will drive the regulatory framework

The government has decided not to provide a detailed definition of AI on the grounds that as it is such a fast-moving field, any definitions would quickly become irrelevant to a regulatory framework. Instead, they define two key characteristics of AI systems which underlie distinct regulatory issues:

1. The '*adaptiveness*' of the AI system - explaining intent or logic.
The logic or intent behind the output of AI systems can often be extremely hard to explain, or errors and undesirable issues within the training data are replicated in the system's outputs.
2. The '*autonomy*' of the technology - assigning responsibility for action.
An AI system may have a sufficiently high level of autonomy that it makes decisions without the express intent or the ongoing control of a human.

5. Cross-sectoral principles for AI regulation

The government has decided it is necessary:

- to establish a set of cross-sectoral principles tailored to the above distinct characteristics of AI, with regulators asked to interpret, prioritise, and implement these principles within their sectors and domains
- for those principles to build on the OECD Principles on Artificial Intelligence

The government proposes the following initial draft set of principles:

- ensure that AI is used safely
- ensure that AI is technically secure, and functions as designed, i.e., an AI system should reliably do what is intended and claims to do
- make sure that AI is appropriately transparent and explainable
- embed considerations of fairness into AI
- define legal persons' responsibility for AI governance
- clarify routes to redress or contestability

Of note is that the government has specifically said:

- In some high-risk circumstances, regulators may deem that decisions which cannot be explained should be prohibited entirely

6. What next?

The government will publish fuller details through a forthcoming White Paper. For now, the government will put the cross-sectoral principles on a non-statutory footing.

Other actions following on from publication of the policy paper:

- regulators will lead the process of identifying, assessing, prioritising, and contextualising the specific risks addressed by the principles.
- government may issue supplementary or supporting guidance, for example focused on the interpretation of terms used within the principles to support regulators in their application of the principles.
- government will consider if there is a need to update the powers and remits of some individual regulators. They do not consider that equal powers or uniformity of approach across all regulators is necessary.
- government will look for ways to support collaboration between regulators to ensure a streamlined approach.
- government is considering if legislation may be necessary to ensure that regulators are able to take a coordinated and coherent approach.
- government will work with the Information Commissioner's Office, Competition and Markets Authority, Ofcom, Medicine and Healthcare Regulatory Authority and Equality and Human Rights Commission - as well as other stakeholders – to consider if there are areas of high risk that demand an agreed timeline for regulators to interpret the principles into sector or domain specific guidance.

7. BCS Expert Observations

We asked Adam Leon Smith CITP, FBCS, Chair of the BCS Software Testing Specialist Group, for his initial observations on the policy paper. He commented that the new UK principles imply a similar technical direction to the EU AI Act, but there are significant differences in the UK implementation approach.

In terms of the regulatory ecosystem, it is notable that the UK is planning to extend the remit of existing regulators such as the Medicines and Healthcare products Regulatory Agency (MHRA) rather than create new AI notified bodies. This may turn out to be similar in practice, as existing EU medical notified bodies may simply decide to extend their remit by registering as an AI notified body.

He added that whilst the UK approach makes sense, especially in the case of financial services and medical devices which have a mature regulatory ecosystem, it is unclear if the ICO (Information Commissioners Office) and Ofcom will be able to handle the increased workload. This workload is particularly important given the frequency of change that AI systems undergo, but also the expected impact of the Online Safety Bill on Ofcom.

The EU is adopting a risk-based approach. It is specifically prohibiting certain types of AI and requiring high-risk use cases to be subject to independent conformity assessment. The UK is also following a context-specific and risk-based approach but is not trying to define that approach in primary legislation, instead, it is leaving that to individual regulators. One outcome of this maybe that less regulated sectors, such as recruitment, fall outside of the UK's proposals.

The EU is defining AI based on the technology used. Instead, the UK has defined core characteristics of AI in relation to autonomy and adaptability. It is likely that both approaches will end up encompassing the same technologies.

Another notable difference is the focus on explainability in the UK proposal. The policy paper states that regulators may deem that high-risk decisions that cannot be explained should be prohibited entirely. The EU has not gone so far, merely indicating that information about the operation of the systems should be available to users. Interestingly the UK proposal also requires that accountability for AI systems must rest with an identified legal person - a bit like a Data Protection Officer - although this can be a company rather than a natural person.

Who we are

BCS is the UK's Chartered Institute for Information Technology. The purpose of BCS as defined by its Royal Charter is to promote and advance the education and practice of computing for the benefit of the public.

We bring together industry, academics, practitioners, and government to share knowledge, promote new thinking, inform the design of new curricula, shape public policy and inform the public.

As the professional membership and accreditation body for Information Technology we serve over 60,000 members including practitioners, businesses, academics, and students, in the UK and internationally.

We also accredit the computing degree courses in over ninety universities around the UK. As a leading information technology qualification body, we offer a range of widely recognised professional and end-user qualifications.