

**STANDARD FORM OF EXPLANATORY MEMORANDUM FOR EUROPEAN UNION
LEGISLATION AND DOCUMENTS**

8507/18 and 8507/18 ADD1

SWD(2018) 137 final and COM(2018) 237 final

8507/18

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT,
THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND
SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: Artificial
Intelligence for Europe**

8507/18 ADD1

**COMMISSION STAFF WORKING DOCUMENT: Liability for emerging digital
technologies - Accompanying the document Communication from the
Commission to the European Parliament, the European Council, the Council, the
European Economic and Social Committee and the Committee of the Regions:
Artificial Intelligence for Europe**

Submitted by the Department for Digital, Culture, Media and Sport on
16 May 2018

SUBJECT MATTER

1. The main document (8507/18) is a Communication from the Commission setting out a European initiative on Artificial Intelligence (**AI**). This Communication is in response to the European Council's invitation to the Commission, at its October 2017 meeting, "*to put forward a European approach to artificial intelligence*". The accompanying document (8507/18 ADD 1) is a Commission Staff Working Document providing a first mapping of liability challenges that occur in the context of emerging digital technologies.

Communication (8507/18)

2. The Communication notes that AI is already part of our lives and that the way we approach AI will define the world we live in. Amid fierce global competition, a solid European framework is needed. To make the most of the opportunities and address the new challenges AI brings, the European Union (EU) should have a coordinated approach and capitalise on: (i) its world-class researchers, labs and startups, (ii) the Digital Single Market, and (iii) its wealth of industrial, research and public sector data.
3. The European initiative on AI set out in the Communication has three aims. To:

- (i) Boost the EU's technological and industrial capacity and AI uptake across the economy.
 - (ii) Prepare for socio-economic changes brought about by AI.
 - (iii) Ensure an appropriate ethical and legal framework, based on the Union's values and in line with the Charter of Fundamental Rights of the EU.
4. On 10 April 2018, 24 Member States and Norway signed a declaration of cooperation, each committing to work together on AI¹. Building on the approach set out in the Communication and this declaration the Commission will work with Member States on a coordinated plan for AI with a view to agreeing this plan by the end of 2018.
 5. The Communication summarises (in Chapter 2) the EU's position in a competitive international landscape. It notes that overall Europe is behind in private investments in AI (EUR 2.4-3.2 billion in 2016, approximately £2.1-2.8 billion) compared to Asia (EUR 6.5-9.7 billion, approximately £5.7-8.5 billion) and North America (EUR 12.1-18.6 billion, approximately £10.6-16.4 billion). It is therefore crucial that the EU continues its work to create an environment that stimulates investments and uses public funding to leverage private investments. To do this the EU needs to preserve and build on its assets.
 6. One of the main challenges is ensuring the take-up of AI technology across the economy. The Communication notes that only a fraction of European companies have so far adopted digital technologies and this trend is particularly acute in small and medium-sized enterprises (SMEs). At the same time, the benefits of adopting AI technologies are widely recognised.
 7. The Communication highlights EU efforts so far to lay the groundwork to make the most of AI. It notes that overall, around EUR 1.1 billion (£0.97 billion) has been invested in AI-related research and innovation during 2014-2017 under Horizon 2020, including in big data, health, rehabilitation, transport and space-oriented research. The Commission has also launched major initiatives key for AI including development of more efficient electronic components and systems, as well as flagship projects on quantum technologies and mapping of the human brain.
 8. Initiatives to achieve the three aims of the EU initiative on AI are then set out in the Communication (in Chapter 3).
 - i. Boosting the EU's technological and industrial capacity and AI uptake across the economy.***

¹ The UK is a signatory of this Declaration of Cooperation on Artificial Intelligence which can be found at <https://ec.europa.eu/digital-single-market/en/news/eu-member-states-sign-cooperate-artificial-intelligence>.

9. The Communication states that the EU as a whole (public and private sectors) should aim to increase investment in AI to at least EUR 20 billion (around £17.6 billion) by the end of 2020 and aim for more than EUR 20 billion (£17.6 billion) per year over the following decade. The Commission will work with Member States on a coordinated plan to help align and step-up investments.
10. In the 2018-2020 period the Commission will invest around EUR 1.5 billion (around £1.32 billion) under the work programme Horizon 2020 (financed within the current financial programming envelope and subject to future revision of the work programme) in:
 - research and innovation in AI technologies;
 - strengthening AI research excellence centres across Europe; and
 - the uptake of AI across Europe.
11. Under existing public-private partnerships (e.g. in robotics and big data) this will trigger an additional EUR 2.5 billion (approximately £2.2 billion) over the same period.
12. Initiatives to encourage the uptake of AI across Europe include the development of an “AI-on-demand platform” – a single access point for AI resources (including knowledge, data repositories, computing power, tools and algorithms). It will offer services and support to potential users of AI technology, including SMEs, companies from non-tech sectors and public bodies. A network of AI-focused Digital Innovation Hubs will facilitate access to the platform. The Commission will also support the set-up of testing and experimentation infrastructures.
13. The Commission also aims to stimulate more private investments in AI under the European Fund for Strategic Investments (at least EUR 500 million in 2018-20, around £440 million). The Commission and European Investment Fund have also just launched VentureEU, a EUR 2.1 billion (around £1.85 billion) Pan-European Venture Capital Funds-of-Funds programme to boost investment in innovative startup and scale-up companies across Europe.
14. To facilitate access to data, which the Communication highlights as a key ingredient for a competitive AI landscape, a new support centre for data sharing will provide public authorities and companies with legal and technical support to access data from public sector bodies and companies. The Communication notes that the Commission has also put forward a set of initiatives to grow the European data space:
 - An updated Directive on public sector information.
 - Guidance on sharing private sector data in the economy.

- An updated Recommendation on access to and preservation of scientific information.
- A Communication on the digital transformation of health and care.

ii. *Preparing for socio-economic changes brought about by AI.*

15. The Communication notes three main challenges due to the emergence of automation, robotics and AI: (1) to prepare society by helping all Europeans to develop basic digital skills as well as skills complementary to and not replaceable by machines; (2) to focus efforts to help workers in jobs which are likely to be most transformed or to disappear; (3) to increase the number of people trained in AI and encourage diversity in the AI workforce. In relation to this third challenge, the Communication notes that interdisciplinarity should be supported (encouraging joint degrees) and the importance of ethics should be acknowledged.

16. The Communication recognises that Member States are responsible for labour and education policies but sets out a number of initiatives for 2018 to support the efforts of Member States including to:

- Set up dedicated (re-)training schemes with financial support from the European Social Fund.
- Gather analysis to anticipate changes to the labour market and the skills mismatch across the EU to inform decision making.
- Support Digital Opportunity Traineeships (2018-20) in advanced digital skills.
- Encourage, through the Digital Skills and Job Coalition, business-education partnerships to attract and retain AI talent and foster continued collaboration.
- Invite social partners to include AI and its impact in their joint work programmes.

17. The European Institute of Innovation and Technology will also integrate AI across curricula in the education courses it supports.

iii. *Ensure an appropriate ethical and legal framework.*

18. The Communication recognises the need for an environment of trust and accountability around the development and use of AI. It emphasises EU values in the Treaty on European Union and the EU Charter of Fundamental Rights and the strength of the EU regulatory framework which can be built on to set the global standard for a sustainable approach to AI. The EU has high safety and product liability standards. Also, the first EU-wide rules on network and information systems security and stronger rules on personal data protection (the General Data Protection Regulation, GDPR) come into force in May 2018. Additionally, the Commission has put forward a series of proposals under the Digital Single Market strategy that will be key for the development of AI (e.g. the Regulation on the free flow of non-personal data) and that will strengthen trust in the online world (e.g. the ePrivacy Regulation and Cybersecurity Act).

19. To ensure an appropriate ethical and legal framework for the development and use of AI, the Communication sets out the steps the Commission plans to take in relation to addressing ethical concerns and suitability of existing safety and national and EU liability frameworks. The Commission will:

- Set up a European AI Alliance to develop draft AI ethics guidelines by the end of 2018.
- Issue guidance on the interpretation of the Product Liability Directive by mid-2019.
- Publish a report on the broader implications for, potential gaps in and orientations for, the liability and safety networks for AI, the Internet of Things and robotics by mid-2019.
- Support explainable AI research and implement a pilot project proposed by the European Parliament on Algorithmic Awareness Building.
- Support national and EU-level consumer organisations and data protection supervisory authorities to understand AI-powered applications.

20. The Communication concludes by setting out initiatives to work with Member States and stakeholders and a commitment to encourage and engage in international discussions on AI. 24 Member States (including the UK) and Norway, through a Declaration of Cooperation, have committed to joining forces on AI and entering into a strategic dialogue with the Commission. The Commission will facilitate this dialogue and aim to agree with Member States a coordinated plan on AI by the end of 2018. The Commission will also set up, by July 2018, the European AI Alliance. This will be a broad multi-stakeholder platform to gather input, exchange views, develop and implement common measures to encourage the development and use of AI.

Staff Working Document (8507/18 ADD 1)

21. The Staff Working Document acknowledges that a clear and stable legal framework will help stimulate the investment that is critical in order to fully benefit from the opportunities presented by emerging digital technologies. The objective of the Staff Working Document is to provide a first mapping of liability challenges that occur in the context of emerging digital technologies.

22. The Staff Working Document first outlines the existing safety and liability frameworks and then considers the specific characteristics of emerging digital technologies, the extent to which these specific characteristics could be covered by the existing rules and the impact they may have on the parties involved by looking at a number of theoretical case studies.

23. This analysis highlights a number of liability questions that need analysing in relation to the Product Liability Directive and other extra-contractual liability rules.

The Commission will analyse these liability questions with the help of the Expert Group on liability which will consist of two formations: the Product Liability Directive formation and the New Technologies formation.

24. The Product Liability Directive formation discussions will be around updating the concepts of 'producer', 'product' and 'defect', the exemptions and other elements of the Product Liability Directive to reflect technological and other developments in the single market and global value chains. The New Technologies formation will analyse the overall liability regimes and approaches that are or can be relevant to the goal of facilitating the uptake of emerging digital technologies including issues flagged in the Staff Working Documents such as whether concepts like the liability of a guardian are appropriate to technologies like AI and whether and to what extent it matters whether the damage could have been avoided or not. Issues around cybersecurity, burden of proof, type of damage, and redress between actors in the value chain also need to be assessed.

SCRUTINY HISTORY

25. AI is part of the Commission's strategy to digitise industry (8100/16, COM(2016) 180 final) and a renewed EU Industrial Policy Strategy 12202/17, (COM(2017) 479 final)
26. In May 2017, the Commission published its mid-term review of the Digital Single Market strategy (8998/17, COM(17)228) . It highlighted the importance of building on Europe's scientific and industrial strengths, as well as on its innovative startups, to be in a leading position in the development of AI technologies, platforms, and applications.

MINISTERIAL RESPONSIBILITY

27. The Secretary of State for Digital, Culture, Media and Sport (SoS, DCMS) is jointly responsible for policy on Artificial Intelligence with the Secretary of State for Business, Energy and Industrial Strategy (SoS, BEIS). In particular, the SoS DCMS is responsible for data and its use, including for AI systems and for digital skills training provision, critical to helping the UK workforce adapt to AI and automation. The SoS BEIS is responsible for policy for the adoption and uptake of AI in industry sectors and on wider skills training, including PhDs. SoS BEIS is also responsible for policy in relation to regulating product safety issues.

INTEREST OF THE DEVOLVED ADMINISTRATIONS

28. Scottish Government Ministers, Welsh Government Ministers and Northern Ireland Executive Ministers have an interest in AI – the AI Sector Deal includes the Devolved Administrations – and the Devolved Administrations have been consulted in the preparation of this EM.

LEGAL AND PROCEDURAL ISSUES

29. There are no legal or procedural issues. This is not a proposal for legislation.

APPLICATION TO THE EUROPEAN ECONOMIC AREA

30. This is not a proposal for legislation.

SUBSIDIARITY

31. This is not a legislative act and, as such, the principle of subsidiarity does not apply. The Government will be examining carefully the subsidiarity implications of any more detailed proposals which may arise from the Communication.

POLICY IMPLICATIONS (including Exit implications where appropriate)

32. The Communication sets out the European initiative on AI. It provides a summary of Commission initiatives but does not contain any new legislative proposals. It therefore does not, in itself, give rise to new policy implications.

33. On 23 June 2016, the EU referendum was held and the people of the United Kingdom voted to leave the European Union. The Government respected the result and triggered Article 50 of the Treaty on European Union on 29th March 2017 to begin the process of exit. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the Government will also continue to negotiate, implement and apply EU legislation.

34. As noted in the Subject Matter section of this EM the UK is a signatory of the Declaration of Cooperation on Artificial Intelligence, along with 23 other Member States and Norway. The UK recognises the need for discussions at an international level particularly in areas such as AI governance and we intend to play a leading role in those discussions.

35. The Communication recognises many of the opportunities and challenges related to AI that were also highlighted in the report “Growing the Artificial Intelligence Industry in the UK” (the “AI Review”) and sets out similar initiatives to those recommendations made in the AI Review. The AI Sector Deal that was launched on 26 April 2018 takes forward key recommendations from the AI Review and is the first step towards the AI and Data Revolution Grand Challenge.

Possible policy implications:

36. **Declaration of Cooperation on AI:** The UK signed up to the Declaration of Cooperation on AI referred to in the Communication to influence EU AI and ethics policy in a way consistent to our emerging thinking. Regulatory compatibility on AI, as it is for data through the GDPR, will be beneficial for trade. It should be noted that the Declaration has no formal status, and that any outputs would have no binding or legal status, with no expectation or requirement that we sign up to them.
37. **Access to Data:** The UK Government and ALBs are recognised as being global leaders in the publication of open data and have tended to be ahead of Europe in this regard. Access to data for AI, through recognition of the importance of data infrastructure, and by developing data sharing frameworks such as Data Trusts is central to the UK's AI Sector Deal, which itself responds to the Hall-Pesenti AI review. The Centre for Data Ethics and Innovation will play a key role in scrutinising the development of such frameworks to ensure data can be shared in a safe, secure and equitable way for AI and other purposes to drive innovation. The recommendation that Digital Innovation Hubs – the Catapults in the UK – play a role in facilitating access to (or advice on) open datasets for business via an AI-on-Demand platform, to be developed, is already mirrored in the UK by the Machine Intelligence Garage, which provides computation power and expertise. For Earth observation data from the Galileo and Copernicus satellite programmes, access in the UK post EU Exit is still uncertain. Of the former, it is likely that access will be lost post-2019; while for the latter, an effort is being made by the UK Space Agency to secure access and this is central to its negotiating requirements, as also indicated by the Prime Minister's Mansion House Speech (see paragraph 39, below).
38. **Venture Capital (VC) Funding:** Launch of VentureEU by the Commission and European Investment Fund could present greater challenge than posed presently to UK VC funding – which currently more than matches the rest of Europe combined (roughly 10 times that of either Germany or France), but still lags behind the US and China.
39. **Research:** As the Prime Minister said in her Mansion House speech, the UK wants to establish a far-reaching science and innovation pact with the EU, facilitating the exchange of ideas and researchers. This could include continuing to cooperate through specific policies and programmes that are greatly to our mutual advantage, and would allow the EU continued access to the expertise of the UK's world-leading universities. The most substantial areas that we are interested in exploring include the successor programme to Horizon 2020 [Framework Project 9], Euratom Research and Training and the Copernicus programme. Full association with these programmes – would be in our joint interests. The scale and the strength of the UK's research and innovation expertise are such that we should be looking for a

bespoke relationship. The ‘Ellis open letter’² signed by leaders in AI research across Europe called for centres in the UK to be included in a pan-European federated research hub network (similar in constitution to the European Molecular Biology Laboratory).

40. Safety and liability frameworks: As identified in the Staff Working Document, AI brings its own challenges. In order to promote global trade, the UK will work with countries with similar regulatory environments towards transnational norms around safety, security, ethics and assurance. It is for technology companies, given a clear regulatory framework and other incentives, to develop standards around these issues.

CONSULTATION

41. There has been no formal consultation with outside bodies specifically in relation to this communication as it is not a proposal for legislation.

42. To develop public policy on AI, we continue to engage widely with bodies in the UK AI and data landscape across sectors, including businesses across multiple sectors, Digital Innovation Hubs, the Catapults (in particular the Digital Catapult), universities, the Alan Turing Institute, UK Research and Investment, UK National Academies on Fellowships, Tech Nation on AI workforce and visas, and the Open Data Institute on access to data.

IMPACT ASSESSMENT

43. This is not a legislative proposal. Accordingly, there are no cost implications on UK businesses or the Third Sector arising from this report and so no impact assessment has been made.

FINANCIAL IMPLICATIONS

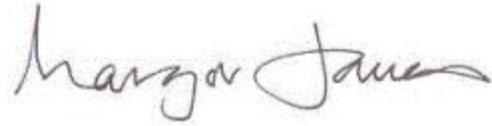
44. There are no financial implications for the UK.

TIMETABLE

45. There is no action required as a result of this report. However, it is worth noting that the Commission intends to work with Member States to agree a coordinated plan on AI by the end of 2018.

² <https://ellis-open-letter.eu/letter.pdf>

MINISTERIAL NAME AND SIGNATURE

A handwritten signature in black ink that reads "Margot James". The signature is written in a cursive style with a prominent loop at the end of the word "James".

Margot James
Minister of State
Department for Digital, Culture, Media and Sport