European Parliament
2019-2024

TEXTS ADOPTED

P9_TA(2020)0277

Intellectual property rights for the development of artificial intelligence technologies

European Parliament resolution of 20 October 2020 on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI))

The European Parliament,

– having regard to the Treaty on the Functioning of the European Union (TFEU), in particular Articles 4, 16, 26, 114 and 118 thereof,

– having regard to the Berne Convention for the Protection of Literary and Artistic Works,

– having regard to the Interinstitutional Agreement of 13 April 2016 on Better Law-Making[1] and the Commission's Better Regulations Guidelines (COM(2015)0215),

– having regard to the World Intellectual Property Organisation (WIPO) Copyright Treaty, the WIPO Performances and Phonograms Treaty and the WIPO revised Issues Paper of 29 May 2020 on Intellectual Property Policy and Artificial Intelligence,

– having regard to Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC[2],

– having regard to Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases[3],

– having regard to Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs[4],

– having regard to Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business

1 OJ L 123, 12.5.2016, p. 1.
2 OJ L 130, 17.5.2019, p. 92.
3 OJ L 77, 27.3.1996, p. 20.
4 OJ L 111, 5.5.2009, p. 16.

information (trade secrets) against their unlawful acquisition, use and disclosure[1],

– having regard to Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information[2],

– having regard to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC ('General Data Protection Regulation')[3],

– having regard to Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data in the European Union[4],

– having regard to Regulation (EU) 2019/1150 of the European Parliament and of the Council of 20 June 2019 on promoting fairness and transparency for business users of online intermediation services[5],

– having regard to the Commission White Paper of 19 February 2020 entitled 'Artificial Intelligence - A European approach to excellence and trust' (COM(2020)0065),

– having regard to the work of the High-Level Expert Group on Artificial Intelligence set up by the Commission,

– having regard to the Commission communications entitled 'A European Data Strategy' (COM(2020)0066) and 'A New Industrial Strategy for Europe' (COM(2020)0102),

– having regard to the Guidelines for Examination in the European Patent Office of November 2019,

– having regard to the digital economy working paper 2016/05 of the Commission's Joint Research Centre and its Institute for Prospective Technological Studies entitled 'An Economic Policy Perspective on Online Platforms',

– having regard to the political guidelines for the next European Commission 2019-2024 entitled 'A Union that strives for more: my agenda for Europe',

– having regard to its resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics[6],

– having regard to Rule 54 of its Rules of Procedure,

– having regard to the opinions of the Committee on the Internal Market and Consumer Protection, the Committee on Transport and Tourism and the Committee on Culture and

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1 OJ L 157, 15.6.2016, p. 1.
2 OJ L 172, 26.6.2019, p. 56.
3 OJ L 119, 4.5.2016, p. 1.
4 OJ L 303, 28.11.2018, p. 59.
5 OJ L 186, 11.7.2019, p. 57.
6 OJ C 252, 18.7.2018, p. 239.

Education,

– having regard to the report of the Committee on Legal Affairs (A9-0176/2020),

A. whereas the Union's legal framework for intellectual property aims to promote innovation, creativity and access to knowledge and information;

B. whereas Article 118 TFEU stipulates that the Union legislator must establish measures for the creation of European intellectual property rights (IPRs) to provide uniform protection of those rights throughout the Union; whereas the single market is conducive to the stronger economic growth needed to ensure the prosperity of Union citizens;

C. whereas recent developments in artificial intelligence (AI) and similar emerging technologies represent a significant technological advance that is generating opportunities and challenges for Union citizens, businesses, public administrations, creators and the defence sector;

D. whereas AI technologies may render the traceability of IPRs and their application to AI-generated output difficult, thus preventing human creators whose original work is used to power such technologies from being fairly remunerated;

E. whereas the aim of making the Union the world leader in AI technologies must encompass efforts to regain and safeguard the Union's digital and industrial sovereignty, ensure its competitiveness and promote and protect innovation, and must require a structural reform of the Union's industrial policy to allow it to be at the forefront of AI technologies while respecting cultural diversity; whereas the Union's global leadership in AI calls for an effective intellectual property system which is fit for the digital age, enabling innovators to bring new products to the market; whereas strong safeguards are crucial to protect the Union's patent system against abuse, which is detrimental to innovative AI developers; whereas a human-centred approach to AI that is compliant with ethical principles and human rights is needed if the technology is to remain a tool that serves people and the common good;

F. whereas the Union is the appropriate level at which to regulate AI technologies in order to avoid fragmentation of the single market and differing national provisions and guidelines; whereas a fully harmonised Union regulatory framework in the field of AI will have the potential to become a legislative benchmark at international level; whereas new common rules for AI systems should take the form of a regulation in order to establish equal standards across the Union and whereas legislation must be future-proofed to ensure it can keep pace with the fast development of this technology, and must be followed up on through thorough impact assessments; whereas legal certainty fosters technological development, and whereas public confidence in new technologies is essential for the development of this sector, as it strengthens the Union's competitive advantage; whereas the regulatory framework governing AI should therefore inspire confidence in the safety and reliability of AI and strike a balance between public protection and business incentives for investment in innovation;

G. whereas AI and related technologies are based on computational models and algorithms, which are regarded as mathematical methods within the meaning of the European Patent Convention (EPC) and are therefore not patentable as such; whereas mathematical methods and computer programs may be protected by patents under Article 52(3) of the

EPC when they are used as part of an AI system that contributes to producing a further technical effect; whereas the impact of such potential patent protection should be thoroughly assessed;

H. whereas AI and related technologies are based on the creation and execution of computer programs which, as such, are subject to a specific copyright protection regime, whereby only the expression of a computer program may be protected, and not the ideas, methods and principles which underlie any element of it;

I. whereas an increasing number of AI-related patents are being granted;

J. whereas the development of AI and related technologies raises questions about the protection of innovation itself and the application of IPRs to materials, content or data generated by AI and related technologies, which can be of an industrial or artistic nature and which create various commercial opportunities; whereas in this regard it is important to distinguish between AI-assisted human creations and creations autonomously generated by AI;

K. whereas AI and related technologies are heavily dependent on pre-existing content and large volumes of data; whereas increased transparent and open access to certain non-personal data and databases in the Union, especially for SMEs and start-ups, as well as interoperability of data, which limits lock-in effects, will play a crucial role in advancing the development of European AI and supporting the competitiveness of European companies at the global level; whereas the collection of personal data must respect fundamental rights and data protection rules and requires tailored governance, namely in terms of data management and the transparency of data used in developing and deploying AI technologies, and this throughout the entire lifecycle of an AI-enabled system;

1. Takes note of the Commission White Paper on ‘Artificial Intelligence - A European approach to excellence and trust’ and the European Data Strategy; stresses that the approaches outlined therein are likely to contribute to unlocking the potential of human-centred AI in the EU; notes, however, that the issue of the protection of IPRs in the context of the development of AI and related technologies has not been addressed by the Commission, despite the key importance of these rights; highlights the necessity of creating a single European data space and believes that the use thereof will play an important role in innovation and creativity in the Union economy, which should be incentivised; stresses that the Union should play an essential role in laying down basic principles on the development, deployment and use of AI, without hindering its advancement or impeding competition;

2. Highlights the fact that the development of AI and related technologies in the transport and tourism sectors will bring innovation, research, the mobilisation of investment and considerable economic, societal, environmental, public and safety benefits, while making these sectors more attractive to new generations and creating new employment opportunities and more sustainable business models, but stresses that it should not cause harm or damage to people or society;

3. Stresses the importance of creating an operational and fully harmonised regulatory framework in the field of AI technologies; suggests that such a framework should take the form of a regulation rather than a directive in order to avoid fragmentation of the

European digital single market and promote innovation;

4. Calls on the Commission to take into account the seven key requirements identified in the Guidelines of the High-Level Expert Group, as welcomed by it in its communication of 8 April 2019[1], and properly implement them in all legislation dealing with AI;

5. Stresses that the development, deployment and use of AI technologies and the growth of the global data economy make it necessary to address significant technical, social, economic, ethical and legal issues in a variety of policy areas, including IPRs and their impact on these policy areas; highlights that in order to unlock the potential of AI technologies, it is necessary to remove unnecessary legal barriers, so as not to hamper the growth of or innovation in the Union's developing data economy; calls for an impact assessment to be conducted with regards to the protection of IPRs in the context of the development of AI technologies;

6. Stresses the key importance of balanced IPR protection in relation to AI technologies, and of the multidimensional nature of such protection, and, at the same time, stresses the importance of ensuring a high level of protection of IPRs, of creating legal certainty and of building the trust needed to encourage investment in these technologies and ensure their long-term viability and use by consumers; considers that the Union has the potential to become the frontrunner in the creation of AI technologies by adopting an operational regulatory framework that is regularly assessed in the light of technological developments and by implementing proactive public policies, particularly as regards training programmes and financial support for research and public-private sector cooperation; reiterates the need to ensure sufficient leeway for the development of new technologies, products and services; emphasises that creating an environment conducive to creativity and innovation by encouraging the use of AI technologies by creators must not come at the expense of the interests of human creators, nor the Union's ethical principles;

7. Considers also that the Union must address the various aspects of AI by means of definitions that are technologically neutral and sufficiently flexible to encompass future technological developments as well as subsequent uses; considers it necessary to continue to reflect on interactions between AI and IPRs, from the perspective of both intellectual property offices and users; believes that the challenge of assessing AI applications creates a need for some transparency requirements and the development of new methods as, for instance, adaptive learning systems may recalibrate following each input, making certain ex ante disclosures ineffective;

8. Stresses the importance of streaming services being transparent and responsible in their use of algorithms, so that access to cultural and creative content in various forms and different languages as well as impartial access to European works can be better guaranteed;

9. Recommends that priority be given to assessment by sector and type of IPR implications of AI technologies; considers that such an approach should take into account, for example, the degree of human intervention, the autonomy of AI, the importance of the role and the origin of the data and copyright-protected material used and the possible involvement of other relevant factors; recalls that any approach must

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1 'Building trust in human-centric artificial intelligence' (COM(2019)0168).

strike the right balance between the need to protect investments of both resources and effort and the need to incentivise creation and sharing; takes the view that more thorough research is necessary for the purposes of evaluating human input regarding AI algorithmic data; believes that disruptive technologies such as AI offer both small and large companies the opportunity to develop market-leading products; considers that all companies should benefit from equally efficient and effective IPR protection; therefore calls on the Commission and the Member States to offer support to start-ups and SMEs via the Single Market Programme and Digital Innovation Hubs in protecting their products;

10. Suggests that this assessment focus on the impact and implications of AI and related technologies under the current system of patent law, trademark and design protection, copyright and related rights, including the applicability of the legal protection of databases and computer programs, and the protection of undisclosed know-how and business information ('trade secrets') against their unlawful acquisition, use and disclosure; acknowledges the potential of AI technologies to improve the enforcement of IPRs, notwithstanding the need for human verification and review, especially where legal consequences are concerned; emphasises, further, the need to assess whether contract law ought to be updated in order to best protect consumers and whether competition rules need to be adapted in order to address market failures and abuses in the digital economy, the need to create a more comprehensive legal framework for the economic sectors in which AI plays a part, thus enabling European companies and relevant stakeholders to scale up, and the need to create legal certainty; stresses that the protection of intellectual property must always be reconciled with other fundamental rights and freedoms;

11. Points out that mathematical methods as such are excluded from patentability unless they are used for a technical purpose in the context of technical inventions, which are themselves patentable only if the applicable criteria relating to inventions are met; points out, further, that if an invention relates either to a method involving technical means or to a technical device, its purpose, considered as a whole, is in fact technical in nature and is therefore not excluded from patentability; underlines, in this regard, the role of the patent protection framework in incentivising AI inventions and promoting their dissemination, as well as the need to create opportunities for European companies and start-ups to foster the development and uptake of AI in Europe; points out that standard essential patents play a key role in the development and dissemination of new AI and related technologies and in ensuring interoperability; calls on the Commission to support the establishment of industry standards and encourage formal standardisation;

12. Notes that patent protection can be granted provided that the invention is new and not self-evident and involves an inventive step; notes, further, that patent law requires a comprehensive description of the underlying technology, which may pose challenges for certain AI technologies in view of the complexity of the reasoning; stresses also the legal challenges of reverse engineering, which is an exception to the copyright protection of computer programs and the protection of trade secrets, which are in turn of crucial importance for innovation and research and which should be duly taken into account in the context of the development of AI technologies; calls on the Commission to assess possibilities for products to be adequately tested, for example in a modular way, without creating risks for IPR holders or trade secrets due to extensive disclosure of easily replicated products; stresses that AI technologies should be openly available for educational and research purposes, such as more effective learning methods;

13. Notes that the autonomisation of the creative process of generating content of an artistic nature can raise issues relating to the ownership of IPRs covering that content; considers, in this connection, that it would not be appropriate to seek to impart legal personality to AI technologies and points out the negative impact of such a possibility on incentives for human creators;

14. Points out the difference between AI-assisted human creations and AI-generated creations, with the latter creating new regulatory challenges for IPR protection, such as questions of ownership, inventorship and appropriate remuneration, as well as issues related to potential market concentration; further considers that IPRs for the development of AI technologies should be distinguished from IPRs potentially granted for creations generated by AI; stresses that where AI is used only as a tool to assist an author in the process of creation, the current IP framework remains applicable;

15. Takes the view that technical creations generated by AI technology must be protected under the IPR legal framework in order to encourage investment in this form of creation and improve legal certainty for citizens, businesses and, since they are among the main users of AI technologies for the time being, inventors; considers that works autonomously produced by artificial agents and robots might not be eligible for copyright protection, in order to observe the principle of originality, which is linked to a natural person, and since the concept of 'intellectual creation' addresses the author's personality; calls on the Commission to support a horizontal, evidence-based and technologically neutral approach to common, uniform copyright provisions applicable to AI-generated works in the Union, if it is considered that such works could be eligible for copyright protection; recommends that ownership of rights, if any, should only be assigned to natural or legal persons that created the work lawfully and only if authorisation has been granted by the copyright holder if copyright-protected material is being used, unless copyright exceptions or limitations apply; stresses the importance of facilitating access to data and data sharing, open standards and open source technology, while encouraging investment and boosting innovation;

16. Notes that AI makes it possible to process a large quantity of data relating to the state of the art or the existence of IPRs; notes, at the same time, that AI or related technologies used for the registration procedure to grant IPRs and for the determination of liability for infringements of IPRs cannot be a substitute for human review carried out on a case-by-case basis, in order to ensure the quality and fairness of decisions; notes that AI is progressively gaining the ability to perform tasks typically carried out by humans and stresses, therefore, the need to establish adequate safeguards, including design systems with human-in-the-loop control and review processes, transparency, accountability and verification of AI decision-making;

17. Notes, with regard to the use of non-personal data by AI technologies, that the lawful use of copyrighted works and other subject matter and associated data, including pre-existing content, high-quality datasets and metadata, needs to be assessed in the light of the existing rules on limitations and exceptions to copyright protection, such as the text and data mining exception, as provided for by the Directive on copyright and related rights in the Digital Single Market; calls for further clarification as regards the protection of data under copyright law and potential trademark and industrial design protection for works generated autonomously through AI applications; considers that voluntary non-personal data sharing between businesses and sectors should be promoted and based on fair contractual agreements, including licencing agreements; highlights the

IPR issues arising from the creation of deep fakes on the basis of misleading, manipulated or simply low-quality data, irrespective of such deep fakes containing data which may be subject to copyright; is worried about the possibility of mass manipulation of citizens being used to destabilise democracies and calls for increased awareness-raising and media literacy as well as for urgently needed AI technologies to be made available to verify facts and information; considers that non-personal auditable records of data used throughout the life cycles of AI-enabled technologies in compliance with data protection rules could facilitate the tracing of the use of copyright-protected works and thereby better protect right-holders and contribute to the protection of privacy; stresses that AI technologies could be useful in the context of IPR enforcement, but would require human review and a guarantee that any AI-driven decision-making systems are fully transparent; stresses that any future AI regime may not circumvent possible requirements for open source technology in public tenders or prevent the interconnectivity of digital services; notes that AI systems are software-based and rely on statistical models, which may include errors; stresses that AI-generated output must not be discriminatory and that one of the most efficient ways of reducing bias in AI systems is to ensure – to the extent possible under Union law – that the maximum amount of non-personal data is available for training purposes and machine learning; calls on the Commission to reflect on the use of public domain data for such purposes;

18. Stresses the importance of full implementation of the Digital Single Market Strategy in order to improve the accessibility and interoperability of non-personal data in the EU; stresses that the European Data Strategy must ensure a balance between promoting the flow of, wider access to and the use and sharing of data on the one hand, and the protection of IPRs and trade secrets on the other, while respecting data protection and privacy rules; highlights the need to assess in that connection whether Union rules on intellectual property are an adequate tool to protect data, including sectoral data needed for the development of AI, recalling that structured data, such as databases, when enjoying IP protection, may not usually be considered to be data; considers that comprehensive information should be provided on the use of data protected by IPRs, in particular in the context of platform-to-business relationships; welcomes the Commission's intention to create a single European data space;

19. Notes that the Commission is considering the desirability of legislation on issues that have an impact on relationships between economic operators whose purpose is to make use of non-personal data and welcomes a possible revision of the Database Directive and a possible clarification of the application of the directive on the protection of trade secrets as a generic framework; looks forward to the results of the public consultation procedure launched by the Commission on the European Data Strategy;

20. Stresses the need for the Commission to aim to provide balanced and innovation-driven protection of intellectual property, for the benefit of European AI developers, to strengthen the international competitiveness of European companies, including against possible abusive litigation tactics, and to ensure maximum legal certainty for users, notably in international negotiations, in particular as regards the ongoing discussions on AI and data revolution under the auspices of WIPO; welcomes the Commission's recent submissions of the Union's views to the WIPO public consultation on the WIPO draft Issues Paper on Intellectual Property Policy and Artificial Intelligence; recalls in this regard the Union's ethical duty to support development around the world by facilitating cross-border cooperation on AI, including through limitations and exceptions for cross-

border research and text and data mining, as provided for by the Directive on copyright and related rights in the Digital Single Market;

21. Is fully aware that progress in AI will have to be paired with public investment in infrastructure, training in digital skills and major improvements in connectivity and interoperability in order to come to full fruition; highlights, therefore, the importance of secure and sustainable 5G networks for the full deployment of AI technologies but, more importantly, of necessary work on the level of infrastructure and security thereof throughout the Union; takes note of the intensive patenting activity taking place in the transport sector when it comes to AI; expresses its concern that this may result in massive litigation that will be detrimental to the industry as a whole and may also affect traffic safety if we do not legislate on the development of AI-related technologies at Union level without further delay;

22. Endorses the Commission's willingness to invite the key players from the manufacturing sector – transport manufacturers, AI and connectivity innovators, service providers from the tourism sector and other players in the automotive value chain – to agree on the conditions under which they would be ready to share their data;

23. Instructs its President to forward this resolution to the Council and the Commission as well as to the parliaments and the governments of the Member States.