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P8_TA(2018)0528

# Blockchain: a forward-looking trade policy

**European Parliament resolution of 13 December 2018 on Blockchain: a forward-looking trade policy (2018/2085(INI))**

(2020/C 388/15)

*The European Parliament*,

— having regard to Articles 207(3) and 218 of the Treaty on the Functioning of the European Union (TFEU),

— having regard to the General Agreement on Trade in Services,

— having regard to the World Trade Organisation (WTO) Information Technology Agreement,

— having regard to the WTO Work Programme on E-commerce,

— having regard to the WTO Trade Facilitation Agreement,

— having regard to the World Customs Organisation Revised Kyoto Convention,

— having regard to its resolution of 26 May 2016 on virtual currencies ([1]),

— having regard to its resolution of 5 July 2016 on a new forward-looking and innovative future strategy for trade and investment ([2]),

— having regard to its resolution of 12 December 2017 on 'Towards a digital trade strategy' ([3]),

— having regard to its resolution of 16 May 2017 on the evaluation of external aspects of customs performance and management as a tool to facilitate trade and fight illicit trade ([4]),

— having regard to its resolution of 12 September 2017 on the impact of international trade and the EU's trade policies on global value chains ([5]),

— having regard to the Joint Declaration on Trade and Women's Economic Empowerment on the Occasion of the WTO Ministerial Conference in Buenos Aires in December 2017 ([6]),

— 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 (the General Data Protection Regulation or GDPR) ([7]),

— having regard to the Commission proposal on horizontal provisions for cross-border data flows for personal data protection (in EU trade and investment agreements),

— having regard to the Commission report to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Trade Policy Strategy 'Trade for All': Delivering a Progressive Trade Policy to Harness Globalisation (COM(2017)0491),

— having regard to the 2016 report of the Chief Scientific Adviser of the UK Government Office for Science on 'Distributed Ledger Technology: beyond blockchain' ([8]),

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([1]) OJ C 76, 28.2.2018, p. 76.
([2]) OJ C 101, 16.3.2018, p. 30.
([3]) OJ C 369, 11.10.2018, p. 22.
([4]) OJ C 307, 30.8.2018, p. 44.
([5]) OJ C 337, 20.9.2018, p. 33.
([6]) https://www.wto.org/english/thewto_e/minist_e/mc11_e/genderdeclarationmc11_e.pdf
([7]) OJ L 119, 4.5.2016, p. 1.
([8]) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/492972/gs-16-1-distributed-ledger-technology.pdf

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— having regard to the 2018 White Paper of the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) on the technical applications of blockchain,

— having regard to the declaration of 10 April 2018 by 21 EU Member States and Norway on the establishment of a European Blockchain Partnership ([1]), after which five more Member States joined the Partnership, bringing to 27 the current number of signatory countries,

— having regard to the Commission's launch of the EU Blockchain Observatory and Forum on 1 February 2018 ([2]),

— having regard to the Council conclusions of 19 October 2017 ([3]),

— having regard to Rule 52 of its Rules of Procedure,

— having regard to the report of the Committee on International Trade and the opinions of the Committee on Industry, Research and Energy and the Committee on Civil Liberties, Justice and Home Affairs (A8-0407/2018),

A. whereas in this report blockchain will be considered, unless otherwise stated, as a private, permissioned distributed ledger technology (DLT), comprising a database made up of sequential blocks of data that are added with the consensus of network operators;

B. whereas various case studies and industries will derive different utility from a mixture of private/public, permissioned/permissionless blockchains;

C. whereas each block on a blockchain contains a hash that verifies the data on previous blocks, thereby enabling separate parties to engage in transactions with enhanced trust and accountability, given that data stored on a ledger cannot be easily falsified;

D. whereas open-source blockchain technology is the bedrock of the rise of permissioned blockchains worldwide, helping to raise the level of participant trust in a given business-related network;

E. whereas blockchain could enable certain administrators to clearly define participants' roles, responsibilities, levels of access, and rights of validation;

F. whereas global trade is based on an estimated EUR 16 trillion supply-chain sector in which the high transactional costs and burdensome paperwork lead to a complexity of processes and systems susceptible to error;

G. whereas pilot initiatives have been launched with promising potential to reduce transport costs, make the industry more environment-friendly and boost economic performance;

H. whereas there are at least 202 government blockchain initiatives in 45 countries around the world and economies in regions of Asia-Pacific, the Americas and the Middle East, in particular, are investing in blockchain technologies for trade;

I. whereas blockchain can enhance and improve EU trade policies, such as Free Trade Agreements (FTAs), Mutual Recognition Agreements (MRAs), particularly of Authorised Economic Operators (AEOs), data adequacy decisions and trade defence measures;

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([1]) https://ec.europa.eu/digital-single-market/en/news/european-countries-join-blockchain-partnership
([2]) http://europa.eu/rapid/press-release_IP-18-521_en.htm
([3]) http://www.consilium.europa.eu/media/21620/19-euco-final-conclusions-en.pdf

J. whereas blockchain has great potential to improve transparency and traceability throughout the supply chain, raise the level of participant trust in a given network, streamline customs checks and regulatory compliance, reduce transaction costs, strengthen the immutability and security of data and function as a tool to combat corruption; whereas the potential benefits are accompanied by several challenges, such as cybersecurity;

K. whereas blockchain can provide a framework for transparency in a supply chain, reduce corruption, detect tax evasion, enable the tracking of unlawful payments and tackle trade-based money laundering (TBML); whereas there are risks associated with the use of unpermissioned blockchain applications for criminal activities, including tax evasion, tax avoidance and TBML; whereas the Commission and the Member States must monitor and address these issues as a matter of urgency;

L. whereas blockchain is still evolving in the area of international trade and therefore needs an innovation-friendly, enabling and encouraging approach that provides legal certainty, while at the same time promoting consumer, investor and environmental protection, increasing the social value of the technology, reducing the digital divide and improving the digital skills of citizens;

M. whereas blockchain technology may provide all parties involved in trade, be they public or private, with permanent real-time access to an immutable, time-stamped database holding documents pertaining to transactions, thus helping to build confidence, avoid compliance issues and tackle the use of counterfeited goods or fake documents;

N. whereas some regional and metropolitan areas of the EU have already started developing this technology through specific projects and programmes, based on their own characteristics, and creating networks to spread best practices;

***EU trade policy***

1. Recognises that despite previous trade successes, EU FTAs have large untapped potential and have yet to be fully utilised with, on average, only 67 % of EU exporters and 90 % of EU importers making use of the preferential tariffs in both the EU and its partner countries or regions, and supports analysis of technical solutions that may increase FTA utilisation and exports; notes that exporters could upload all their documents to a public authority application underpinned by blockchain, and demonstrate their compliance with preferential treatment granted by an FTA, such as qualification for preferential rules of origin, sanitary and phytosanitary (SPS) rules, and Trade and Sustainable Development (TSD) provisions; believes that blockchain could enhance provisions for cumulation in FTAs;

2. Views the procedures for obtaining certification for both preferential and non-preferential rules of origin to be costly and cumbersome for businesses; considers that, in the case of preferential rules, blockchain can assist in establishing the economic nationality of a good; considers furthermore that, in the case of non-preferential rules, blockchain could assist the Union's proportionate use of trade defence instruments by providing transparency over the provenance of goods entering the European market and an overview of the influx of imports to ensure a more level playing field for businesses;

3. Stresses that blockchain has the potential to support the TSD agenda by providing trust in the provenance of raw materials and goods, transparent production processes and supply chains, and in their compliance with international rules in the field of labour, social and environmental rights, considering the particular relevance to conflict minerals, illicit trade in cultural goods, exports control and corruption; stresses that blockchain could contribute to the sustainability work of companies and promote responsible business conduct;

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4. Believes that MRAs of AEOs enable businesses to diversify their supply chains through reduced time and costs associated with cross-border customs; notes that there are implementation issues to be addressed; believes that blockchain offers the potential to reduce the uncertainty associated with implementing MRAs of AEOs, through a seamless exchange of data;

***External aspects of customs and trade facilitation***

5. Strongly welcomes the Trade Facilitation Agreement (TFA); views the TFA as a foundation for WTO members to explore further ways to ease trade, including through blockchain; welcomes the EU's efforts to maintain and strengthen the WTO and its commitment to a rules-based trading system in order to ensure a level playing field and enforce global trade rules;

6. Considers that blockchain could enable customs authorities to automatically obtain the required information for a customs declaration, reduce the need for manual verification and paper trails, and provide a precise update on the status and characteristics of goods entering the EU to all relevant parties simultaneously, thereby improving track-and-trace capabilities and transparency;

7. Believes that digitisation will enable the exchange of information to be more efficient and transparent; considers that blockchain can enable producers, laboratories, logistics operators, regulators and consumers to have access to, and share, all necessary information regarding, for example, provenance, testing, certification and licensing; notes that blockchain could also assist in the appropriate issuing of e-certificates; views digitisation and the use of applications along supply chains to be both a prerequisite for, and a complement to, blockchain's full functioning; notes that there exist substantial differences between Member States as regards digitisation;

8. Believes that the adoption of blockchain technologies throughout the supply chain can increase the efficiency, speed and volume of global trade by limiting the costs associated with international transactions and assisting business to identify new trading partners, and can lead to increased consumer protection and confidence in digital trade;

9. Underlines the application of blockchain, notably in the following ways:

a) strengthening the certainty of both the provenance and the intellectual property rights of goods, thereby reducing the risk of illicit goods, including fake and counterfeit goods, entering the supply chain,

b) providing authorities with precise information as to when a good may have been damaged/tampered with on supply chains,

c) improving transparency and traceability by enabling all participants to record their transactions and share this information in the network,

d) upholding consumer protection and trust by providing consumers with detailed information on goods and contributing to the sustainability work of businesses,

e) reducing the costs of supply-chain management by removing the need for intermediaries and their associated costs, along with the physical requirement to produce, transport and process paper documentation,

f) improving the application of correct duty and VAT payments and revenue collection within trade policy, and

g) reducing the total time goods are in transit by automating tasks that are typically accomplished through manual means; notes the associated benefit, in particular to just-in-time supply chains, in reducing both the costs and the carbon footprint of the logistics industry;

10. Notes that criminals can manipulate legitimate trade to mask their illicit activities, such as TBML, by tampering with the necessary documentation by means of false reporting, such as overvaluation or undervaluation of the good concerned; believes that blockchain can enable customs and other authorities to take necessary actions in a timely, prompt and coordinated manner to expose illicit financial flows;

***Cross-border data flows and data protection***

11. Recognises cross-border data flows as an integral function for international trade in goods and services, and the design of blockchain architecture;

12. Highlights the scope of blockchain for validating transactions across an international supply chain by defining levels of access and validation procedures for participants;

13. Notes the connection between blockchain and cross-border data flows for trade; notes that a private permissioned inter-ledger network can provide trust between platforms by integrating data from multiple sources; recognises the importance of cross-border data flows for growth and jobs; highlights the distinction between personal and non-personal data on blockchains;

14. Recognises the challenge posed by the relationship between blockchain and the implementation of the GDPR; highlights that the implementation of blockchain should be compliant with all existing and future EU legislation on data protection and privacy rules; underlines that blockchain technology can provide solutions for the 'data protection by design' provisions in GDPR implementation on the basis of their common principles of ensuring secured and self-governed data; emphasises the limited effect of the GDPR on commercial transactions due to the absence of personal data on private permissioned blockchains; acknowledges, however, the need for necessary safeguards and regulatory oversight; underlines that the GDPR applies only where personal data are concerned; invites the Commission to look further into this issue;

15. Acknowledges the need for blockchains to be designed in compliance with the right to be forgotten and notes that verified users of blockchain and blockchain applications should at all times have access to all data related to transactions in which they are involved, in accordance with their access rights;

16. Reiterates its call for provisions allowing for the full functioning of the digital ecosystem and for the promotion of cross-border data flows in free trade agreements; notes, in this regard, that adequacy decisions do not advance the free flow of non-personal data; calls, therefore, on the Commission to negotiate binding and enforceable commitments on data transfers in FTAs, including on non-personal data;

17. Underlines that blockchain represents a new paradigm of data storage and management that is capable of decentralising forms of human interaction, markets, banking and international trade; emphasises that the rise of blockchain presents both opportunities and challenges in terms of data protection, transparency and financial crime, as the data is immutable once it has been input and is shared with all participating parties, which also ensures its security and integrity; requests that everything possible be done, including at national level, to guarantee the non-falsifiable and immutable character of the technology and to ensure that the fundamental right to data protection is not put at risk;

18. Recognises the challenge posed by the relationship between blockchain technologies and the implementation of the EU data protection framework, namely the General Data Protection Regulation (GDPR), and recalls that, as a result, this relationship could reveal a clash between the protection of fundamental rights, on the one hand, and the promotion of innovation, on the other; suggests the need to ensure that blockchain fully conforms with the EU's data protection framework and fully respects the principles set out in EU law, particularly in relation to the processing of personal data as a fundamental right under Article 8(1) of the Charter of Fundamental Rights of the European Union and Article 16(1) of the TFEU;

19. Stresses, furthermore, that blockchains, partly as a result of the clash described above, by no means automatically support data sovereignty, and must therefore be specifically designed to do so, given that they can also present risks to data protection;

20. Underlines that, if adequately designed, blockchain technology should be in line with the principle of 'data protection by design', which serves to give data subjects more control over their data, in line with the GDPR; stresses, moreover, that personal data in a blockchain is normally not anonymous, thereby bringing it within the scope of the GDPR; insists that blockchains should be fully compatible with EU law, including when they are used to process personal data; recommends, in this respect, that blockchains and applications should integrate mechanisms that ensure that data can be fully anonymous, thereby guaranteeing that they store only data that does not relate to an identified or identifiable natural person;

21. Underlines that future blockchain applications should implement mechanisms that protect personal data and the privacy of users and ensure that data can be fully anonymous; calls on the Commission and the Member States to fund research, in particular academic research, and innovation on new blockchain technologies that are compatible with the GDPR and based on the principle of data protection by design, such as zk-SNARK (zero-knowledge succinct non-interactive arguments of knowledge);

22. Takes the view that, in order to prevent the infringement of the fundamental right to the protection of personal data, blockchain technology should not be used for the processing of personal data until the user organisation concerned is in a position to guarantee compliance with the GDPR and to specifically ensure that the rights to the rectification and erasure of data are protected;

23. Highlights the fact that blockchain users may be both data controllers, for the personal data that they upload onto the ledger, and data processors, by virtue of storing a full copy of the ledger on their own computer;

24. Notes that, in cases where the blockchain contains personal data, the immutable nature of some blockchain technologies is likely to be incompatible with the 'right to erasure' set out in Article 17 of the GDPR;

25. Notes with concern that, in cases where the blockchain contains personal data, the proliferation of copies of data in a blockchain is likely to be incompatible with the data minimisation principle set out in Article 5 of the GDPR;

26. Invites the European Data Protection Board to issue guidelines and recommendations to ensure that blockchain technology is compliant with EU law;

27. Notes with concern the lack of any reference to the serious implications of how blockchain technology is applied, particularly in areas such as the fight against money laundering, tax evasion and the financing of terrorism; deems that any utilisation of blockchain technologies should be anticipated by delineating what will be stored on and off the chain, with personal data stored off the chain;

***Small and medium-sized enterprises (SMEs)***

28. Believes that innovation and promotion regarding blockchain can create economic opportunities for SMEs to internationalise and to overcome the costs associated with exporting, by making it easier to interact with consumers, customs authorities, international and domestic regulatory bodies, and other businesses involved in the supply chain; adds that blockchain infrastructure can help to quickly and inexpensively bring products and services to market;

29. Highlights the benefits blockchain could bring to SMEs by allowing peer-to-peer communication, collaboration tools and secure payments, increasing the ease of doing business and reducing the risk of non-payment and legal procedure costs of contract fulfilment through the use of smart contracts; recognises the need to ensure that the development of blockchain in international trade includes SMEs; highlights that, at the moment, smart contracts may not be sufficiently mature to be considered legally enforceable within any sectoral regulation and further assessment of risks is needed;

30. Acknowledges the opportunities, including for SMEs, deriving from the introduction of blockchain technology as part of the EU's trade policy, which could bring, among other benefits, lower transactional costs and greater efficiency; acknowledges, furthermore, that blockchain technology offers the potential to improve trust and confidence in the current trade system by providing an immutable record of transactions; recognises, however, that in cases that fall outside the scope of the EU's trade policy, the application of this technology may present risks of money laundering and facilitate the financing of organised crime;

***Interoperability, scalability and interactions with related technologies***

31. Considers the scalability challenges associated with the implementation of blockchain systems, in the context of expanding international trade networks;

32. Notes the proliferation of different blockchains anchoring data for a transaction into separate private and public ledgers; recognises that there is an increasing need to develop global interoperability standards to integrate transactions across blockchains around the movement of an item along a supply chain to encourage interoperability between systems, including legacy operation systems; calls on the Commission to enhance collaboration with ISO and other relevant standardisation bodies;

33. Considers the possible interactions of blockchain technologies with other international trade innovations; underlines the need to analyse the opportunities and challenges connected with developments in blockchain technologies; calls for further research into their applicability to the digital transformation and automation of international trade, as well as the public sector, in particular under the Digital Europe Programme;

***Conclusions***

34. Calls on the Commission to follow developments in the area of blockchain, in particular the ongoing pilots/initiatives in the international supply chain, and the external aspects of customs and regulatory processes; invites the Commission to produce a horizontal strategy document involving relevant DGs on adopting blockchain technologies in trade and supply-chain management as well as in the area of intellectual property and in particular regarding the fight against counterfeiting; invites the Commission to assess the judicial and governance aspects of blockchain and whether blockchain offers better solutions to existing and emerging technologies that can address current challenges in EU trade policy; calls on the Commission to follow developments in the area of blockchain, in particular the ongoing pilots/initiatives in the international supply chain; invites the Commission to produce a strategy document on adopting blockchain technologies in trade and supply-chain management; believes that the aim must be to win the support of blockchain players for projects and initiatives in the international supply chain and to pursue projects on a joint basis, incorporating the identity, provenance and data storage of a variety of partners;

35. Calls on the Commission to develop a set of guiding principles for blockchain application to international trade, in order to provide industry and customs and regulatory authorities with a sufficient level of legal certainty that encourages the use of blockchain and innovation in this area; stresses that legislating the technology forming the basis of the applications would limit innovation and the creation of new applications; underlines the importance for the EU, and especially for European industry, of showing leadership and ownership in the field of blockchain technologies and of ensuring a level playing field regarding global competition and in the areas of development and the regulatory environment; underlines the importance of dialogue and exchange of practices, as well as the building of competence and digital skills; calls on the Commission to work with the Member States to launch and supervise pilot projects using blockchain technology in international trade, in order to test its benefits;

36. Encourages the Commission to work with Member States towards simplifying and enhancing the flow of information related to trade facilitation, by, amongst other measures, adopting suitable information and communication technologies;

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37. Calls on the Commission to set up an advisory group within DG Trade on blockchain and to develop a concept note for private permissioned pilot projects on the end-to-end use of blockchain in the supply chain, involving customs and other cross-border authorities, and taking into account intellectual property rights and the fight against counterfeiting; recognises that blockchain technology is still in the early stages of development, yet there is a need for an industry strategy on the effective implementation of blockchain;

38. Calls on the Commission to examine ways in which blockchain could support trade and sustainable development; recalls Parliament's position that measures supporting an EU digital trade strategy should be fully in line with, and contribute to, the realisation of the Sustainable Development Goals (SDGs), including SDG5 on gender equality and women's empowerment; recalls Parliament's position on the importance of promoting female participation in STEM (science, technology, engineering and mathematics) and of closing gender gaps in access to, and the use of, new technologies;

39. Calls on the Commission to conduct policy investigations into how blockchain can modernise the Union's trade defence policies to strengthen their legitimacy and enforcement;

40. Calls on the Commission to assess the optimality of blockchain architecture that keeps private data off the chain;

41. Calls on the Commission to assess how to increase trade facilitation and security by means of blockchain technology, including the concept of AEOs;

42. Encourages the Commission to collaborate with, and contribute to the work of, international organisations and feed into current projects on producing a set of standards and principles to underpin regulation aimed at facilitating the use of blockchain;

43. Calls for the European Union and its Members States to play a leading role in the process of standardisation and security of blockchain, and to work with international partners and all relevant stakeholders and industries to develop blockchain standards, including terminology, development, and deployment of the technology in trade and supply-chain management; stresses that cybersecurity is critical for blockchain applications, including for international trade; calls on the Commission to explore security challenges, to assess technological risks such as quantum computing and to undertake actions to address them;

44. Calls on the Commission to work with relevant stakeholders in order to review and develop a framework for addressing challenges to interoperability and compatibility between blockchain systems;

45. Welcomes the launch of the EU Blockchain Observatory and Forum and encourages it to study applications aimed at facilitating international trade; hereby requests that the Commission explore the possibility of expanding the mandate of the EU Blockchain Observatory and Forum and involve relevant local and global stakeholders to address upcoming challenges and foster the support of decision-makers;

46. Calls on the Commission to take the lead in the assessment and further development of blockchain technologies, including in specific sectors, such as those covered by the EU's trade policy, and to set up an advisory group on blockchains, which should include experts on anti-money laundering, tax evasion, data protection and organised crime;

47. Reminds the Commission that the EU has an opportunity to become a leading actor in the field of blockchain and international trade, and that it should be an influential actor in shaping its development globally, together with international partners;

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48. Instructs its President to forward this resolution to the Council and the Commission, the Vice-President of the Commission / High Representative of the Union for Foreign Affairs and Security Policy, and the EEAS.