

STUDY GROUP ON THE EUROPEAN CONSTITUTIONAL PROCESS

Working Group 15 DIGITALISATION AND ROBOTISATION

Chair: Rotating amongst members
Coordinator: Samuele Nannoni
Contributions: Adrijana Martinović, Igor Merzlov, Lina Papadopoulou, Javier Parra, Georgios Pavlidis, Nuria G. Rabanal, Silvia Salardi, Mirela Župan

1. Introduction

- 1 The digital transformation has had a profound impact on society and the economy. As digital technologies continue to evolve at an unprecedented pace, it has become clear that the digital economy is a key driver of growth and innovation. Therefore, it is crucial for policymakers to ensure that the digitalisation process is inclusive, sustainable, and beneficial to all. This policy paper outlines the key policy objectives that should guide the digital transformation in Europe, including support for innovation and capacity building, protection of human rights and data protection, compliance with legality and transparency standards, and the role of EU competition rules in the digital age.
- 2 Digitalisation is an overall strategic goal that can help achieve sustainable economic growth, job creation, and societal progress. Digitalisation can enhance efficiency, reduce costs, and facilitate cross-border transactions, while promoting innovation, competitiveness, and productivity. Therefore, promoting the digital transformation of the economy should be a priority for policymakers in Europe. This requires a coordinated and comprehensive approach that involves all stakeholders, including governments, the private sector, and civil society. Ethical issues must also be addressed in this context. To comprehensively approach this process means to consider the ethical, the societal, and the polity level. Ethical issues concern the individual level. They are key in the decision-making and should be included from the early stages of novel technological development as well as in the marketing strategies concerning the way new products and services are made available. This is

central in the EU where shared values have been positivised in fundamental rights (section 2).

- 3 Digital transformation will be inclusive, if policymakers prioritise support for innovation and capacity building. This includes investments in research and development, digital skills training, and infrastructure development. Through investments in innovation and capacity building, policymakers can create an enabling environment that fosters entrepreneurship, job creation, and economic growth (section 3).
- 4 In promoting the digital transformation, policymakers must ensure that the guiding principles of protection of human rights, in particular inclusiveness, data protection, legality, and transparency are respected. Privacy and data protection need to be taken into account at different levels: in research funding by providing open access to data and results; in protection of users of technologies, by granting that digital technologies are compliant with legal and ethical standards. Transparency and accountability must be core principles in the development and deployment of digital technologies, particularly in areas such as artificial intelligence, which has the potential to have significant impacts on individuals and society (section 4).
- 5 Large online platforms have become gatekeepers to the digital economy and, as such, bear the responsibility of ensuring that they do not abuse their market power. Within this context, policymakers need to ensure that EU competition rules are adapted to the digital age. This means that competition authorities must be equipped with the tools to address the challenges posed by the concentration of market power in the hands of a few dominant players. The focus should be on ensuring a level playing field and promoting competition, which can drive innovation, improve consumer welfare, and support economic growth (section 5).
- 6 Large online platforms have become the gatekeepers to the digital economy, and as such, they have a responsibility to ensure that they do not abuse their market power. Specifically, policymakers must ensure that large online platforms do not engage in anti-competitive practices or act in ways that harm consumers, such as by engaging in unfair pricing or discriminating against certain groups of users (section 6).

- 7 Furthermore, the digital transformation has significantly impacted labour markets, and it is crucial for policymakers to manage the transition to a digital economy in a way that protects workers and promotes decent work. This entails ensuring that workers are equipped with the necessary digital skills to succeed in the digital economy, and that the social safety net is strengthened to provide protection for workers who may be negatively impacted by the digital transformation (section 7).
- 8 The digital transformation has also given rise to new financial products and services, including crypto assets. Policymakers need to ensure that these new financial products and services are subject to adequate regulatory oversight, and that they do not pose risks to financial stability or consumer protection. At the same time, policymakers should also remain open to the potential benefits they can offer (section 8).
- 9 In the European vision, digital transformation goes hand in hand with the ecological transition. Therefore, this paper explores how digitalisation can contribute to the EU's ambitious goal of achieving climate neutrality by 2050. It examines how digital technologies can support the transition to a circular economy, reduce greenhouse gas emissions, and promote energy efficiency. It also examines how emerging technologies can contribute to the creation of more sustainable and efficient systems (section 9).
- 10 Digitalisation also plays a key role in supporting judicial cooperation and the modernisation of the justice system in Europe. Therefore, the paper explores how digital technologies can facilitate cross-border cooperation and information and evidence sharing. It also emphasises how emerging technologies can enhance the efficiency and security of cross-border judicial cooperation (section 10).
- 11 By focusing on these critical areas, this policy paper offers insights into how digitalisation can help achieve the EU's policy objectives while promoting sustainability and efficiency. It concludes with a list of policy recommendations for future action at the EU level (section 11).

2. Digitalisation as overall strategic goal : ethical issues

- 12 When launching the 2020 Shaping Europe's Digital Future initiative, the Commission identified digitalisation as one of its top strategic priorities.¹ This response was prompted by the significant changes that digital solutions have brought to European society, in particular communications systems, artificial intelligence or quantum technologies. Digital transformation exposes various levels of society to new opportunities, risks and challenges.
- 13 Many ethical risks and challenges have been discussed. The European Parliament has addressed the relationship between technology, ethics, and law through discussions on their mutual influence.
- 14 Ethical issues can be hidden behind technical problems or may arise from the social and cultural context in which technological innovation takes place. As for ethical problems hidden behind technical problems, the main focus is on the accuracy of data and dataset on which algorithms are trained. In justice, finance and the labour market, the accuracy of these datasets is of paramount importance when making decisions based on AI systems. Accuracy of data and datasets is not just an unsolved technical problem. Instead, it raises ethical concerns regarding the justifiability of using AI-based decisions in critical areas such as justice, medicine, and the labour market. The problem is well known both at the EU level as well as at the international level and calls for global standards of validation, anonymisation and data sharing. From a social and cultural standpoint, ethical issues arise in relation to the narratives surrounding AI, as they are used to promote specific positions and assert the legitimacy of particular societal visions. Many narratives on AI are essentially political. Discussing technical problems arising from AI and robotics-based technological innovation goes hand in hand with a critical understanding of the kind of society we wish to create through this innovation. Monitoring the reciprocal influence between technology, ethics, and law entails observing how technology shapes ethical and legal perspectives, and vice versa. Indeed, ethical discussions extend beyond the moral significance of policy choices and directions. It lies at the core of how fundamental rights should serve as a

1 A Europe fit for the digital age

concrete guide for the entire process of technological innovation, aimed at fostering an 'ecosystem of trust.

3. Support for innovation and capacity building

15 Europe should actively promote innovation in the field of information and communication technologies, with a particular emphasis on AI, cybersecurity, supercomputing, quantum computing, quantum communication, and blockchain. Trustworthy AI should be built upon the principles of safety, liability, and respect for fundamental rights. Cybersecurity should be a primary concern as it underpins interoperable public sector data flows, services, and the EU Single Market.

16 However, support for innovation should not solely focus on ensuring the security and safety of artificial systems. It should also encompass targeted measures to empower users of these systems. In fact, the adoption of new digital capabilities necessitates a sufficient level of digital literacy and competencies. These skills should be supported at all levels of education, including comprehensive strategies and programs for lifelong learning that aim to empower ordinary EU citizens by raising awareness about digital devices and AI systems. Despite the formal integration of this aspect into EU policy, its implementation remains insufficient. The lack of knowledge and awareness among citizens regarding the potentialities and risks of technology continues to pose a significant obstacle to their empowerment and the realisation of principles of equality and non-discrimination. In this context, it is not enough to organise institutional initiatives; they must be widely publicised to the public through an extensive network. This process of lifelong education specifically addresses the needs of the labour market.

17 The labour market demands T(echnology) shaped workers. Workers across various sectors affected by digitalisation must actively engage in lifelong learning to develop digital skills and continuously upgrade them. Given the emergence of new employment options, particularly platform work, labour conditions should be closely monitored to ensure fair treatment and protection for workers.

4. **Guiding principles: protection of human rights, inclusiveness, data protection, legality, and transparency**

18 Legitimate concerns have been raised regarding the growing use of algorithms in governance, as it raises human rights considerations. Algorithms have the potential to introduce bias and result in discriminatory outcomes, particularly in areas such as welfare benefit administration. The lack of transparency in algorithmic decision-making poses challenges for individuals to challenge or appeal these decisions. Moreover, there are worries about the potential violation of privacy and infringement on freedom of expression through the use of algorithms. Overall, the use of algorithms in governance gives rise to complex ethical and legal issues that require careful examination.

19 The proposed AI Act introduces a novel and significant element, combining a risk-based approach with a technology-specific risk classification system. The risk-based approach aims to ensure the safe and responsible development and deployment of AI technology. This involves thorough consideration of potential risks and negative impacts associated with AI, followed by measures to mitigate or prevent those risks. For instance, it may involve rigorous testing and evaluation of AI systems to ensure safety and accuracy, as well as the development of regulations for specific AI use cases. On the other hand, some argue that a risk-based approach to AI could be overly restrictive, potentially stifling innovation and progress in the field. This perspective weighs the potential benefits of AI, such as improved efficiency and productivity, against the potential risks. Ultimately, the decision to adopt and implement a risk-based approach to AI depends on individual and societal values and priorities.

20 Additionally, there may be overlaps and divergences between the EU regulatory regime on AI and other existing EU regimes, such as the General Data Protection Regulation (GDPR), which includes provisions in Article 22 related to automated processing and profiling. Furthermore, the AI Act introduces transparency obligations for several low-risk AI applications. However, it is important to note that simply disclosing the use of an AI system does not necessarily enhance the protection of substantive rights, which are not directly linked to the proposed AI Act. In this context, transparency remains a principle or policy aspiration.

- 21 There is no universal approach to regulating AI, as the appropriate regulatory framework depends on various factors, including the specific application of the technology and its potential risks and benefits. Nonetheless, there are several general principles that experts widely agree should guide the development of AI regulations.
- 22 Firstly, regulations should be flexible and adaptable to accommodate the ever-evolving nature of AI technology. Transparency is also crucial, ensuring that individuals and organisations understand the rules they must adhere to.
- 23 Secondly, regulations should be risk-based, focusing on the potential risks and impacts of AI rather than the technology itself. The emphasis should be on promoting the safe and responsible use of AI while avoiding overly restrictive measures that impede its development and deployment.
- 24 Thirdly, regulations should foster accountability, holding developers and users of AI accountable for any adverse effects resulting from its use.
- 25 Fourthly, regulations should prioritise the principle of explainability in AI. This entails the ability to understand how and why machine learning models make specific decisions. Explainability builds trust, ensures ethical and transparent use of AI, and enables the identification and rectification of errors or biases. Achieving explainability can involve making the model itself more transparent or generating human-readable explanations.
- 26 Fifthly, the EU should provide guidance on how AI risk assessments align with existing risk assessment obligations outlined in regulations and directives related to digitalisation, such as the Data Protection Impact Assessment (DPIA) in the General Data Protection Regulation (GDPR). This would contribute to regulatory coherence.
- 27 Lastly, regulations should be developed through inclusive processes that involve diverse stakeholders, including AI experts, civil society organisations, and affected individuals and communities. This inclusive approach ensures fairness, effectiveness, and responsiveness to the needs and concerns of all stakeholders. Regular re-evaluation of AI applications' risk assessments and long-term effects, as well as monitoring the socio-technical impact of the AI Act, would help identify and address human rights concerns as they arise.

5. EU competition rules for the digital age

28 Competition rules for the digital age refer to the set of regulations that govern fair competition in the rapidly evolving digital marketplace. In the digital age, new technologies, platforms and business models have emerged, and traditional competition rules may no longer be adequate to protect consumers and maintain fair competition. Therefore, there is a need for updated competition rules that take into account the unique characteristics of the digital economy.

29 One key aspect of competition in the digital age is the dominance of a few large tech companies, such as Google, Facebook and Amazon. These companies have a significant impact on the digital marketplace, and their dominance has raised concerns about their ability to manipulate the market in their favour. As a result, many regulatory bodies are considering new rules and regulations to prevent these companies from engaging in anti-competitive practices, such as price fixing, tying and bundling, and discriminatory treatment of competitors.

30 Another important issue in competition in the digital age is the issue of data. In the digital economy, data is a valuable asset and companies are collecting vast amounts of data on consumers. This has raised concerns about privacy and the potential misuse of data by dominant companies. As a result, new competition rules should consider the protection of consumer data and ensure that companies are not using it in an anti-competitive manner.

31 In addition, the digital age has made it easier for companies to expand into new markets and reach a global audience. This has led to increased competition and has also raised concerns about companies engaging in anti-competitive practices, such as price dumping, in order to gain a competitive advantage. New competition rules should ensure that companies cannot engage in such practices, and that fair competition is maintained in the digital marketplace.

32 In order to achieve transparency of the market system, strategies to grant open access to data and results of technological research should be considered.

6. Role of large online platforms as network gatekeepers

33 The role of large online platforms as network gatekeepers has become increasingly important in the digital age. These platforms, such as Facebook, Google, and Amazon, act as intermediaries between consumers and businesses, connecting them in a virtual marketplace. They have become essential for businesses to reach consumers and for consumers to access goods and services. As a result, these platforms have significant power and influence over the digital marketplace.

34 The promotion of the role of large online platforms as network gatekeepers has many benefits. For businesses, these platforms provide a valuable source of traffic and a platform to reach consumers. They also offer tools and resources that businesses can use to improve their online presence and reach more customers. For consumers, these platforms provide access to a wide range of goods and services, making it easier for them to find what they are looking for.

35 However, the role of these platforms as network gatekeepers also raises concerns about competition and the potential for anti-competitive behaviour. For example, these platforms may prioritise their own products and services over those of their competitors, potentially giving them an unfair advantage. Additionally, the use of algorithms and data by these platforms can lead to the manipulation of consumer behaviour and the reinforcement of existing biases.

36 In light of these concerns, it is important for regulatory bodies to promote the role of large online platforms as network gatekeepers while also ensuring that competition is maintained and consumer protection is guaranteed. This can be achieved through the implementation of measures such as data protection, antitrust regulation, and the promotion of transparent, and fair algorithms.

37 In conclusion, the role of large online platforms as network gatekeepers is an essential aspect of the digital marketplace. However, it is important to balance this role with the need for fair competition. This can be achieved through the implementation of regulations and measures that promote transparency, fairness, and competition in the digital marketplace. The EU legal framework, including the Digital Services Act, should include these values and guarantees.

7. Digital transformation of labour markets

38 New technologies and digitalisation are transforming the labour market and employment relations, amplifying the existing and creating new challenges in the world of work. The phenomenon of digitalisation and robotisation in the EU can be addressed by distinguishing between "clusters of uncertainty". These are formed by a series of binomials of factors that draw very different economic and social scenarios and that will determine the model towards which the EU may move.

39 The first binomial is freedom versus security. Although these principles are mutually not exclusive, the excessive stress on one or the other can give rise to very different political, societal, and economic scenarios. When security is the key element, freedom may suffer undue limitations. But this is true also when freedom is taken as the main objective to be achieved.

40 The second binomial distinguishes between functional and dysfunctional economic impacts. Thus, we can find ourselves in an economy where the dysfunctional choice of not implementing digitalisation and a digital transformation would move the growth of the EU away from the sustainable path and significantly increase the economic gap between megacities and rural areas. On the other hand, an economy where public-private partnerships functionally facilitate digital transformation would bring European society closer to a more sustainable and sustained growth economy in the coming years. The combination of all these binomials can give us a catalogue of scenarios that must be taken into account when we talk about the future of Europe under the umbrella of digitisation and robotisation

41 This particularly concerns the phenomenon of 'platform work' and the rise of the digital labour platforms, which offer innovative solutions for matching labour market and supply, and contribute to the overall economic growth, innovation and development. Whereas increased autonomy, flexibility, possibility to earn additional income and efficient use of existing resources are the key drivers of platform work, there are numerous risks associated with it, such as job insecurity, low pay, lack of social and work protection, and misclassification of the employment status, which prevents access to employment and social rights, especially collective bargaining.

- 42 Further risks are represented by the application of algorithmic management, i.e. automated monitoring and decision-making systems in the work process. These risks need to be addressed by promoting transparency and human control.
- 43 The labour market may also suffer from the digital divide among member states. This is not just a technical problem concerning financial investments, but it concerns the question of enhancing technological skills and knowledge of users at the workplace. Digitalisation also brings enhanced possibilities for remote and telework, which may have positive, as well as negative aspects. It has the potential of bridging the urban-rural divide, as given the proper digital infrastructure, teleworking may help revive rural and remote areas. However, it also creates a new digital divide and new stratification in the labour market: between jobs that are 'teleworkable' and those that are not. This requires careful consideration and exploration of viable policy options for the promotion of remote and teleworking.
- 44 An additional problem concerns job's destruction. Studies show that the impact of this trend goes far beyond these economic variables, affecting essential aspects such as social polarisation, job qualification, job fragmentation, leisure, health and others.
- 45 In the short term, the impact of this trend on employment may be the destruction of jobs, especially in specific sectors such as logistics or finance. Some predict that the sector least susceptible to significant metamorphoses will be the tertiary sector or, more specifically, some specific sub-activities such as tourism.
- 46 Empirical studies show that introducing an additional robot into the production system destroys 5.6 jobs. This is why the EU has to consider the need to plan scenarios incorporating these trends in the design of a labour market where all studies show the enormous importance of the educational factor as a critical factor for the future in a highly technological and robotised society. A polarisation of labour qualifications is also foreseen, which could lead to a much greater fragmentation of labour than at present and, therefore, a much more segmented standardisation of the labour factor. Another effect may be the reduction of the so-called "working time". There will be a reallocation of time devoted to leisure and work. Machines will allow an increase in efficiency

and productivity which, although in theory, would allow an increase in leisure time, would also affect the wage remuneration of the labour factor.

- 47 Another aspect to consider from an economic perspective is the sustainability of the welfare state. Our welfare state is based on taxation, which finances the pension system and all public economic policies. A decreasing demographic trend, greater technological intensity, a possible reduction in wage remuneration and lower participation of the labour factor in the production function may impact the income that public policies need to provide services to citizens. It is, therefore, necessary to rethink the financing of the welfare state, look for mechanisms to finance it, and, even more so in a society such as the European one, pension systems.

8. Secure digital finance, including crypto assets

- 48 Secure digital finance is a critical aspect of the digital economy, as it enables individuals and businesses to securely store, transfer and access their financial assets. In recent years, digital finance has evolved significantly, with the emergence of cryptocurrencies and other crypto assets. These digital assets, such as Bitcoin and Ethereum, have the potential to disrupt traditional financial systems and offer new opportunities for individuals and businesses.

- 49 One of the key advantages of secure digital finance is its accessibility. Digital finance allows individuals and businesses to access financial services regardless of their location or financial status. This can help to increase financial inclusion, especially for those who are unbanked or underbanked. In addition, digital finance provides a faster and more efficient way to transfer funds, compared to traditional banking methods.

- 50 However, the growth of digital finance and the increasing use of crypto assets also raise concerns about security. Cryptocurrency transactions are often irreversible and can be vulnerable to hacking and theft. Therefore, it is important to ensure that digital finance is secure and that consumer assets are protected. This can be achieved through the use of secure storage solutions, such as hardware wallets, and by implementing robust cybersecurity measures.

- 51 In addition, the growth of digital finance and the increasing use of crypto assets has also led to regulatory challenges. There is currently a lack of clear

and consistent regulations for crypto assets, which has led to uncertainty for consumers and businesses. To address this, regulatory bodies need to establish clear guidelines for the use and management of digital finance, including crypto assets.

52 Secure digital finance, including crypto assets, has the potential to provide new opportunities for individuals and businesses and increase financial inclusion. However, it is important to ensure that digital finance is secure and that consumer assets are protected. This can be achieved through the implementation of security measures and the establishment of clear and consistent regulations for digital finance and crypto assets. The EU framework, in particular the recently adopted MiCA², have to adhere to these principles and be compliant with general ethical standards.

53 Finally, as far as the idea of CBDCs is concerned, the ECB should continue exploring the digital Euro project, which could provide a safer and more stable form of value, while increasing the traceability of payments, but this must be done without compromising citizens' right to privacy or hastily disrupting the function and role of commercial banks.

9. Binding digitalisation with green deal goals

54 In the European vision, the digital transition is closely aligned with the ecological transition.

55 The initiative of Shaping Europe's digital future initially presented EU aspirations to integrate digitalisation and sustainable development goals synergistically. Moreover, the European Green Deal explicitly emphasises the interconnectedness of these two domains. On the top of it, the 2030 Digital Compass establishes a framework of digital principles which "will help promote and uphold EU values in the digital space". The EU is committed to prioritising the development of sustainable, energy-efficient, and resource-efficient digital infrastructures and technologies.

2 ² The new Regulation of the European Parliament and of the Council on markets in crypto-assets ([MiCA Regulation](#)) aims to protect investors, increase transparency and put in place a comprehensive framework for issuers and service providers including compliance with the anti-money laundering rules. At the same time, this harmonised regulatory framework aims to preserve financial stability, allow innovation and foster the attractiveness of the crypto-asset sector.

- 56 Digitalisation holds the potential to enhance environmental sustainability and contribute to the fight against climate change. However, it is essential to acknowledge that the situation is multifaceted. The electricity consumption of data centres and the ICT sector is rapidly increasing and currently accounts for 8-10% of total electricity needs. Similarly, CO2 emissions from these sectors are growing, currently representing 2-4% of total emissions, with the potential to align with the emissions of the airline industry in the future. It is crucial to ensure that digital technologies do not generate more greenhouse gas emissions than they help save. Any credible climate policy must take into account these figures associated with digitalisation.
- 57 The effects of digitalisation on sustainable environments and climate change manifest across various policy domains. In the areas of circular economy and industry, digitalisation should strive to achieve climate ambitions. The New Circular Economy Action Plan and Industrial Strategy ambitiously address innovation, investment, standards, and fair competition through a green and digital lens. The use of digital technology to ensure sustainable product standards is exemplified by the Digital Product Passport.
- 58 The Sustainable and Smart Mobility Strategy aims to adopt mobility technologies that reduce the environmental impact of the sector. While digitalisation can improve traffic flow, it may also lead to unintended consequences, such as a greater reliance on taxis instead of eco-friendly public transport options. EU policymakers must be mindful of potential pitfalls for sustainability.
- 59 Digitalisation also plays a significant role in energy policy. The European Commission's Energy System Integration Strategy centres around renewable-based energy systems supported, among other factors, by digitalisation. This strategy aims to bring about changes in infrastructure and the interactions among various market actors, including network operators, energy suppliers, aggregators, consumers, and digital service providers.
- 60 The increasing number of electronic devices must be balanced with environmental protection. In response to concerns, Europe should prioritise sustainability by advocating for durable devices that can be reused and eventually recycled.

61 The coupling of digitalisation and sustainability fosters the development and evolution of greener digital technologies, as evidenced by many policy areas. However, it is crucial to establish clear objectives, unified standards, and measurement tools to assess the impact of digital solutions on the environment.

10. Digitalisation in judicial cooperation

62 Digitalisation is also a key to jointly support cooperation and modernisation in the judicial system, inherently conservative. In fact, in many member states judicial proceedings still often take place on paper. In cross-border situations they are in particular still based on traditional transmission channels. It is detrimental for citizens and businesses, whose environment is nowadays by default digital. It is well known that structure and operation of judicial systems is mainly the domain of member states. However, the structure set by domestic rules may not infringe smooth operation in application of EU law.

63 Digitalisation in the judiciary entailing usage of ICT is a cornerstone and common denominator of EU justice initiatives. Digital technologies bear potential to improve the efficiency of justice and access to justice. This action fits neatly to the political priority of digital Europe to pursue democracy, improving access to justice, and assuring efficiency of justice systems.

64 Sectors that are being further addressed are: communication on digitalisation of justice and the e-CODEX Regulation; digitalisation of cross-border judicial cooperation; digital information exchange in terrorism cases and collaboration platform to support the functioning of Joint Investigation Teams (JITs). Trusted digital identities for all Europeans is promoted with eIDAS.

65 The cornerstone principle of strategic digitalisation of judiciary is IT that systems used in judiciary must be secure, interoperable, and respect data protection (GDPR). Use of artificial intelligence (AI) based applications for the benefits of justice systems should balance benefits and risks. Particular attention should be paid to the risk of algorithmic discrimination, which is contrary to fundamental rights as stated in the EU Charter. The EU must ensure access to justice for all, particularly to citizens in a disadvantaged social and economic position. Thus, the EU must work on improving tools for access to information for citizens and practitioners through the establishment

and interconnection of registers. Setting up "entry-point" which is linking available national electronic services should be a beneficial one-stop-shop for citizens and businesses.

66 Cooperation and information exchange among national authorities is among the priorities in criminal matters. In order to achieve that goal, the EU should upgrade and modernise digital tools, in particular those at the disposal of the Justice and Home Affairs EU agencies and bodies.

67 In respect of digitalisation of communication and cooperation in justice some concerns are self-evident. Despite the imperative of digital as „golden standard“, digital channels of cooperation in judiciary are far away from being a default way of judicial cooperation. As an example a recently enacted Regulation no. 2020/1784 on the service of documents brings detailed rules on electronic transmission of judicial or extrajudicial documents, but such delivery is only one of the available delivery options, alternative to others such as service by postal services or other.

11. Concluding remarks and policy recommendations

68 Progressive digital transformation and increasing robotisation introduce ethical and societal challenges. In this policy paper the focus was on the labour market, on financial marketing, on justice, including considerations on environmental sustainability. In light of the previous observations, we have elaborated the following recommendations:

- a) The negative consequences of technology-enabled changes in the labour market, such as job insecurity, lack of adequate work or social protection, and low remuneration, have to be adequately addressed. This requires urgent policy and legislative action to set the minimum standard of protection across the Union.
- b) Algorithmic management decisions and systems should be transparent and based on the human-in-command approach to prevent the risk of algorithmic bias and ensuing discrimination, segregation and exclusion from the labour market.
- c) Together with these effective changes, the data economy, the use of artificial intelligence to control productivity, and the progressive substitution of human power in many sectors make it necessary to

think about fiscal alternatives and regulations that guarantee the sustainability of the welfare state.

- d) Coupling digitalisation and sustainability fosters development and evolution of greener digital technologies. Digitalisation holds promise to enhance environmental sustainability and contribute against climate change. Still, possible risks and negative effects of digitalisation reveal across different policy areas (circular economy and industry, mobility technologies, energy policy). Objective and unified standards, methods and tools to measure the impact of digital solutions on the environment speaks for a balanced policy approach.
- e) Digital technologies bear potential to improve the efficiency of justice and access to justice. Thus, digital became a “golden standard” of European cross-border judicial cooperation. Credible digital justice policy takes into account the associated risks, such as algorithmic discrimination, need for security and interoperability as well as privacy protection assured by IT systems used.
- f) EU institutions should develop a more far-reaching strategy to empower ordinary citizens by means of a continuing education process aimed at developing critical thinking. The strategy should include assessment mechanisms to identify groups that are still discriminated against in the access to digital education and training. Cooperation of member states is crucial in the identification of the target groups.
- g) EU institutions and member states should understand innovation not just as technological innovation, but as a multifaceted process aiming at furthering human well-being. Thus, diversity of strategies and plurality of perspectives should be a key aspect of this process. Implementation of diversity and plurality requires investments in educating citizens to critical thinking. There are situations in which this option is easier, as institutions like schools and universities are directly involved in this process. The problem concerns however all those citizens that are no longer included in such institutional paths. In order to reach them, we recommend to not limit advertisement of initiatives through online sources, but to elaborate ad hoc strategies like flyers

to be hand delivered, television programmes, funding of courses at the local level involving municipalities in directly contacting the population.

- h) The backbone of digital transformation is a clear line of funding. Multiannual Financial Framework and the Next Generation is a first step, but more funds must be mobilised
- i) Regular monitoring of the progress achieved, reports and new milestones are key aspects of ensuring progress and accomplished goals. More transparency and access to information is needed so that the public is informed of the EU's progress in these areas.

List of abbreviations

AI	Artificial Intelligence
CBDC	Central Bank Digital Currency
ECB	European Central Bank
EU	European Union
ICT	Information and Communications Technology
MiCA	Regulation on Markets in Crypto-Assets

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