



TEXTS ADOPTED

P8_TA(2016)0089

Towards a thriving data-driven economy

European Parliament resolution of 10 March 2016 on ‘Towards a thriving data-driven economy’ (2015/2612(RSP))

The European Parliament,

- having regard to the Commission communication of 2 July 2014 entitled ‘Towards a thriving data-driven economy’ (COM(2014)0442),
 - having regard to the question to the Commission on ‘Towards a thriving data-driven economy’ (O-000021/2016 – B8-0116/2016),
 - having regard to the motion for a resolution of the Committee on Industry, Research and Energy,
 - having regard to Article 8 of the EU Charter of Fundamental Rights and Article 16 of the Treaty on the Functioning of the European Union,
 - having regard to its resolution of 10 December 2013 on unleashing the potential of cloud computing in Europe¹,
 - having regard to the Commission communication of 6 May 2015 entitled ‘A Digital Single Market Strategy for Europe’ (COM(2015)0192),
 - having regard to Rules 128(5) and 123(2) of its Rules of Procedure,
- A. whereas the growth rate in the Big Data market until 2017 will be six times faster than in the overall ICT market and will reach an overall total of EUR 50 billion, according to the International Data Corporation’s Worldwide Big Data Technology and Services Forecast for 2013-2017, which may result in 3,75 million new jobs by 2017 according to the Big Data Value Public-Private Partnership;
- B. whereas the volume of data is growing at an unprecedented pace, so that there will be 16 trillion gigabytes of data by 2020, which corresponds to an annual growth rate of 236 % in data generation;

¹ Texts adopted, P7_TA(2013)0535.

- C. whereas decisions based on knowledge generated by Big Data may bring about a sizeable increase in productivity and competitiveness, and whereas the benefits of a data-driven economy will bring 1,9 % in additional GDP growth by 2020;
- D. whereas the development of Big Data is an integral part of a new digital market and should ensure the development of innovative and competitive business models while conforming to the EU framework on data protection, as Big Data can entail significant risks and challenges, particularly as regards fundamental rights (including privacy and data protection);
- E. whereas a future thriving data-driven economy can represent an opportunity for growth and employment, including by enabling new business models and services and improved productivity; whereas a good balance has to be achieved in order to create the right framework for economic growth, so as to maintain trust while safeguarding and upholding consumer rights through effective monitoring, assessment and appropriate responses, if necessary by legislative means;
- F. whereas Big Data also brings opportunities for consumers (e.g. convenience, efficiency and savings), businesses (industry 4.0) and government (e-government), and in respect of housing (smart cities), science, medicine (Mhealth), disaster response and fighting crime;

The role of the data-driven economy within the Digital Union strategy

1. Expects the benefits of a data-driven economy at national and European level to have an impact on society and on all types of enterprise in the value chain; sees the creation of a data-driven economy as being at the core of the Digital Single Market strategy, and appreciates its potential to help Europe regain competitiveness in advanced sectors and to accelerate Europe's economic recovery, growth investment and innovation across all sectors, which can only be achieved if there is the right business environment and the means to activate the digital transformation, and if these technologies comply with the EU legal framework on data protection so that the associated risks and challenges – particularly with regard to fundamental rights, and especially privacy and data protection – are addressed;
2. Stresses that the data-driven economy requires advanced skills and is expected to create a significant number of jobs in Europe in the coming years;
3. Recognises the social and economic benefits associated with the integrated use of data in all sectors of the European economy and all fields of European research, and underlines the importance of transparency with regard to the value and use of collected data, management rules and the ways in which the data are collected and processed; emphasises that individuals should have up-to-date, meaningful rights of access to information about data processing; stresses the need, in this context, to collect accurate statistics on the level of awareness among citizens, businesses and public administrations; stresses that the digitisation of the economy is an important driver of development in the area of Big Data, and therefore requires a horizontal approach in order for the data economy to grow;
4. Believes that data represent a valuable asset for companies, the value of which could be significantly increased through the development of innovative and smart ways of allowing the integration of company-owned data with open data; asks that initiatives be launched to raise SMEs' awareness of the value of their data and how they can be used to develop new

business models in order to foster growth and to establish SMEs as a main player in Big Data;

5. Stresses that the processing of certain kinds of data, in particular personal data, falls under the scope of EU data protection law; urges, in this connection, the swift adoption of the Data Protection Package;
6. Points out that data protection and opportunities arising from the integrated use of data are not mutually exclusive, as the smart use of opportunities can ensure compatibility with data protection; considers that ensuring trust in these technologies should be at the heart of both public policy and business models, as a lack of trust can greatly damage growth and innovation in the digital sector; believes that there is an essential need for a future-proof and uniform legal framework for data protection in order to foster growth and innovation, and acknowledges the open and global character of the internet; recognises that data protection law is technologically neutral and already applies fully to Big Data activities operating in the EU, and must therefore be complied with fully; urges that public policy include privacy by design and privacy by default in the data generation and analysis cycle, while seizing any opportunity to foster the development of the potential of Big Data;
7. Considers it essential to develop a regulatory framework to tackle the economic, technological, social and cultural challenges of a data-driven economy, such as access to, and control and ownership of, data, in particular public data; considers that security and data protection are a fundamental basis for data-driven industry growth; stresses that finding a synergy between Big Data, data protection, data security and open data is the basis for a new digital start in Europe; asks that the following challenges be addressed: data ownership, possession, management, access and security, interoperability, data limitation and storage, restrictions on the use and reuse of data across Europe, innovative interrupters in intellectual capital, accessibility and infrastructure, transparent transportation rules, cross-border mechanisms and, where applicable, the creation and dissemination of, and access to, open data, and its availability for public administrations and service providers;

Investing in a data-driven economy (infrastructure and R&D)

8. Notes that a data-driven economy depends on a wider ICT ecosystem to succeed, including the Internet of Things (IoT) for sourcing data, high-speed broadband networks for transporting them and cloud computing for processing them, as well as skilled employees, access to data, and interoperability; points out that this sector requires enormous investments in cloud development, super-computing and high-speed broadband, which are prerequisites for a successful digital economy; calls for a better regulatory framework and environment that target both the private and public sectors; recalls that private-sector investment in network infrastructure should remain essential; encourages, in this connection, the Commission and the Member States to stimulate investments in network infrastructure through a positive regulatory framework and to continue to support broadband infrastructure through existing programmes such as the Connecting Europe Facility, the European Fund for Strategic Investments (EFSI) and the Cohesion Fund, but only in areas with identified market failures;
9. Expresses concern that the digital divide, insufficient investments and a lack of technical standardisation and future-proof data protection legislation could cause Europe to trail behind technologically and economically in the development of a data-driven economy;

10. Acknowledges the importance of interoperability and standards in boosting competitiveness in the ICT sector, and of a proactive role for the Commission in mandating standardising bodies; asks the Commission to develop a Big Data Standard strategy for identifying gaps in standards in the European Big Data industry, including as regards SMEs and key European sectors; supports the development of market-driven, voluntary, technology-neutral, transparent, internationally compatible and market-relevant standards;
11. Considers that the 'ISA²' programme offers an opportunity to develop interoperability standards for Big Data management within public administrations and in their dealings with businesses and citizens;
12. Welcomes the Commission proposal to develop an initiative on the free movement of data; welcomes the announcement of a European 'Free Flow of Data' initiative, which needs to remove existing barriers to the single market for data; calls on the Commission to carry out a broad and transparent review of the creation of a data-driven economy aimed at anticipating needs as regards the necessary technologies and removing barriers to innovation in Europe; asks that this initiative address the following challenges: data security, interoperability, data ownership, limitation and storage, restrictions on the use and reuse of data across Europe, transparent transportation rules, cross-border mechanisms, and open data exchange between administrations, businesses and civil society;
13. Notes that Big Data depends on a wider ICT ecosystem to succeed, including the IoT for sourcing data, broadband networks for transporting them and cloud computing for processing them;
14. Believes that the EU must facilitate procedures for allocating grants and increase funding for research and innovation relating to the integrated use of data, digital innovation and market development in areas identified as bringing added value for citizens, society and the economy and effectively fostering the entry into the market of innovative products and services; considers, in this connection, that a joint European road map for the Member States and the EU for the medium to long term needs to be drawn up and combined with a stable funding framework making it possible to progress towards e-research; believes that free software can play an important role in achieving these aims;
15. Recognises the Commission's initiatives to create public-private partnerships (PPPs) based on the development of the data-driven economy, as cooperation between the public and private sectors is crucial for identifying barriers to the development of the necessary technologies; recognises that the Commission and the European data industry have committed to investing EUR 2,5 billion in a PPP to strengthen the data sector and put Europe at the forefront of the global data race by maximising the potential of the digital economy; points out that access to open data portals and research-related e-infrastructure is a possible way to reduce the disadvantages that researchers and SMEs based in remote regions may face;
16. Welcomes the creation of innovation spaces – areas where a pre-existing concentration of businesses and skills is present and can be increased, allowing experimentation with data-related technologies within innovative clusters which produce ecosystems and cross-sector industrial platform projects for achieving the networking of the real and digital economy; emphasises that these spaces should serve as business incubators, educating businesses on

how to translate the use of data into business opportunities and supporting the growth and internationalisation of SMEs and innovative start-ups; calls for closer partnerships to be established between businesses and universities and research centres in order to foster Big Data innovation; points out, in this connection, the investment made in initiatives such as the Grand Coalition for Digital Jobs and the European e-Skills Week;

17. Encourages the Commission and the Member States to put in place a modern and future-proof regulatory framework that stimulates and furthers investments in the network infrastructure necessary for the future requirements of the digital connected economy, to adopt policies that enable the IoT to flourish, and to secure adequate data capacities and speeds, expanding mobile technology and encouraging IPv6 deployment;
18. Stresses that greater coordination is needed in order to apply openness to standards and interoperability in systems and collaboration platforms;
19. Asks the Commission to adopt policies that remove excessive barriers in innovative sectors, to incentivise investments in research and development and European standardisation and to address the current problem of infringements of standard-essential patents; considers it necessary to strike an appropriate balance between those who invest in research and innovation aimed at developing such essential patents and those who benefit from the existence of those patents; stresses that standard-essential patents are an important element of standardisation and, for a significant number of European ICT undertakings, a component of their business model; calls for measures to preserve a high-quality standardisation system that can attract the best technology contributions, deliver interoperable and innovative digital services and applications and enable patent licensing agreements on fair, reasonable and non-discriminatory (FRAND) terms; considers it necessary, however, to make further efforts to facilitate access and remove digital barriers for people with disabilities;
20. Believes that, in order to reap the greatest benefits from innovation in the field of Big Data, Horizon 2020's principle of 'responsible innovation' should guide the identification of opportunities to accelerate market entrance, especially for SMEs;
21. Asks the Commission to ensure investment in infrastructure and the future-proof development of cloud services in Europe by improving legal certainty about the obligations and responsibilities of each party, guaranteeing the fulfilment of common security and data protection measures, allowing data to cross borders and fostering the right business environment for an efficient, open and global market to develop;

Creating a data-driven economy for the EU market

22. Is of the opinion that Big Data has the potential to boost economic productivity and improve consumer and government services; recognises that Big Data may bring more business opportunities and increased availability of knowledge and capital, as long as governments and stakeholders work together in a constructive manner; stresses, however, that the current fragmented single market is undermining the development of a data-driven economy, Big Data, cloud computing, the IoT and other data-driven technologies;
23. Believes that the major technological impediments to the development of a data-driven economy include the lack of interoperability and of a common interface framework to facilitate sensor and machine data communication and communication between the virtual

and physical world, the insufficient availability of open data and the lack of market conditions enabling entrepreneurs to innovate and grow; asks the Commission to spur shared research to address these issues;

24. Asks the Commission to spur and promote shared research on the creation of a common interface framework in order to reduce duplicate standards and ensure technical and semantic interoperability with a view to following a standard-setting process driven by consumer and business needs;
25. Welcomes the announcement of a European 'Free Flow of Data' initiative, which needs to remove existing barriers to the single market for data;
26. Calls for a future-proof regulatory environment that adapts to the changing nature of the sector, is technology-neutral, encourages the creation of start-ups and the entry into the market of new operators, creates a level playing field and fair competition while avoiding excessive regulatory burden, and ensures full compliance with data protection and privacy standards; welcomes, in this context, the Commission's plans to review the ePrivacy Directive; notes that regulatory action should be market-driven; believes that a level playing field should be a place which enables all operators, small and large, to invest, innovate and compete for the benefit of European end-users in terms of choice and affordability;
27. Notes the importance of open data as high-quality raw material for the development of value-added information services and products; stresses that the data generated by public institutions and European research programmes using public funds under programmes such as Copernicus and Galileo should be available to European citizens under an open-access model and be accessible to public administrations and private businesses so that they can improve the quality of their services while respecting the intellectual property rights in force;
28. Notes that more data should be available, with a view to a more competitive and innovative data-driven economy, and that internet platforms should therefore be encouraged to release their datasets as open data in an anonymised and aggregated form, in compliance with data protection rules;
29. Believes that more effort is needed with regard to the anonymisation and pseudonymisation of data as a precondition for creative data innovation and a major step in lowering market entry barriers for start-ups and SMEs; believes that uptake technologies, including text and data mining, will be an important factor in deriving added value from open datasets; points out, however, that a clear distinction must be made between the processing of personal data and other kinds of data, and that technological solutions that are privacy-enhancing by design must be devised;
30. Stresses that all the principles laid down in EU data protection law, such as fairness and lawfulness, purpose limitation, the legal basis for processing, consent, proportionality, accuracy and limited data retention periods, must be respected by Big Data providers when processing personal data; recalls, in this context, the opinion of the European Data Protection Supervisor on privacy and competitiveness in the age of Big Data;

Fostering start-ups and SMEs in the data-driven economy

31. Recognises the need to develop a strong base of service providers, to promote the benefits and assets for the economy and society of the integrated use of data, and to foster trust in big-data-related technologies among SMEs; recognises the need to support the widespread application of Big Data services with a view to improving efficiency in various economic sectors, and to support new service providers; asks that one-stop shops be set up to help SMEs to make better use of their own and public data while adhering to EU laws on data protection;
32. Regrets the fact that many ideas and opportunities are being lost or realised outside of Europe owing to scalability issues driven by barriers such as administrative burdens and access to finance, all of which negatively affect Europe's competitiveness; asks that the acquisition of private capital be facilitated through the provision of the right incentives, including efforts to tackle the challenges presented by different national, administrative, regulatory and tax rules; calls for stimulation of the development of ecosystems which bring together public and private institutions providing technology and infrastructure with start-ups providing application ideas;
33. Recalls that only 1,7 % of companies make full use of advanced digital technologies despite the benefits that digital tools can bring in all economic sectors; urges the Commission and the Member States, therefore, to launch a digital entrepreneurship strategy;
34. Urges the Commission and the Member States to create European digital economy hubs that include the use of Big Data and other data technologies by entrepreneurs, SMEs and innovative companies and encompass researchers and the broader economy; calls on the Commission and the Member States to promote the establishment of innovation spaces and clusters in order to help develop skills, to create a competitive advantage in the area of intellectual capital and to better understand the perspectives and limitations of Big Data technology;
35. Asks that the EU and its Member States improve their coordinated efforts within schools and educational facilities to make ICT an attractive vocational field, in particular for women and girls, and believes that such efforts should include measures to foster a more entrepreneurial mind-set and facilitate entry into Big Data entrepreneurship through the founding of new start-ups in this field, thus creating more employment opportunities; points to the importance of adopting a multidisciplinary approach to the training of professionals and team-building;
36. Asks that initiatives be launched, and funding models recommended, which foster lifelong learning and tailored measures for all, including elderly people, and which facilitate access to education to enable professionals to widen their ICT and data processing skills, so as to increase the number of digitally skilled professionals; calls for the digital transformation of business to be given greater prominence in continuing education, and for e-leadership programmes to be drawn up ; stresses the need to facilitate the movement of skilled workers across the EU and measures to address skills shortages, including specific measures to attract talent;
37. Supports initiatives to include coding and subjects relating to data handling in national curricula; stresses the multiple advantages of free software in education, and calls for a particular focus on ensuring that these new curricula motivate children to discover their talents and participate in data science and coding;

38. Considers that the EU and its Member States should step up their efforts to prevent a brain drain of highly educated and skilled experts to other regions outside Europe;
39. Calls for support for the development of front-end tools to allow casual end-users in SMEs to develop new data-driven business models;

Involving society

40. Calls for the stimulation of initiatives to increase awareness of, and encourage public debate in Member States and at European and international level on, the benefits and value of digital technologies, particularly in relation to those groups that do not yet have access to digital technologies or are not very familiar with them; calls for initiatives to empower citizens vis-à-vis the use and value of their data, in particular as regards the development of innovative new services, and to increase awareness of the benefits and value of Big Data for society;
41. Points out that Big Data analytics has the potential to accelerate significantly the development of innovative public services based on the use of open government data and the reuse of public-sector information; welcomes, therefore, the opportunities that digital infrastructure and the integrated use of data bring to increase popular participation and involvement by means of various forms of e-governance and e-democracy;
42. Urges the Commission and the Member States to speed up actions to develop e-governance; recognises, in particular, the value of the IoT, and calls on the Commission to coordinate the Digital Single Market framework with existing Europe 2020 targets; stresses the need also to exploit fully the advantages of the shared economy and the inclusive involvement of civil society and citizens;

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43. Instructs its President to forward this resolution to the Council and the Commission.