REPORT


Committee on Industry, Research and Energy

Rapporteur: Angelika Mlinar

Rapporteur for the opinion (*):

Bogdan Wenta, Committee on Culture and Education

(*) Associated committees – Rule 54 of the Rules of Procedure
Symbols for procedures

* Consultation procedure
*** Consent procedure
***I Ordinary legislative procedure (first reading)
***II Ordinary legislative procedure (second reading)
***III Ordinary legislative procedure (third reading)

(The type of procedure depends on the legal basis proposed by the draft act.)

Amendments to a draft act

Amendments by Parliament set out in two columns

Deletions are indicated in bold italics in the left-hand column. Replacements are indicated in bold italics in both columns. New text is indicated in bold italics in the right-hand column.

The first and second lines of the header of each amendment identify the relevant part of the draft act under consideration. If an amendment pertains to an existing act that the draft act is seeking to amend, the amendment heading includes a third line identifying the existing act and a fourth line identifying the provision in that act that Parliament wishes to amend.

Amendments by Parliament in the form of a consolidated text

New text is highlighted in bold italics. Deletions are indicated using either the ▌ symbol or strikeout. Replacements are indicated by highlighting the new text in bold italics and by deleting or striking out the text that has been replaced.

By way of exception, purely technical changes made by the drafting departments in preparing the final text are not highlighted.
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DRAFT EUROPEAN PARLIAMENT LEGISLATIVE RESOLUTION

on the proposal for a regulation of the European Parliament and of the Council
establishing the Digital Europe programme for the period 2021-2027

(Ordinary legislative procedure: first reading)

The European Parliament,

– having regard to the Commission proposal to Parliament and the Council
  (COM(2018)0434),

– having regard to Article 294(2) and Articles 172 and 173(3) of the Treaty on the
  Functioning of the European Union, pursuant to which the Commission submitted the
  proposal to Parliament (C8-0256/2018),

– having regard to Article 294(3) of the Treaty on the Functioning of the European Union,

– having regard to Rule 59 of its Rules of Procedure,

– having regard to the report of the Committee on Industry, Research and Energy and the
  opinion of the Committee on Culture and Education, and also the opinions of the
  Committee on Budgets, the Committee on the Environment, Public Health and Food
  Safety, the Committee on the Internal Market and Consumer Protection, the Committee
  on Transport and Tourism, the Committee on Legal Affairs and the Committee on Civil
  Liberties, Justice and Home Affairs (A8-0408/2018),

1. Adopts its position at first reading hereinafter set out;

2. Calls on the Commission to refer the matter to Parliament again if it replaces,
   substantially amends or intends to substantially amend its proposal;

3. Instructs its President to forward its position to the Council, the Commission and the
   national parliaments.
Amendment 1

Draft legislative resolution
Citation 3 a (new)

Draft legislative resolution

– having regard to the resolution of the European Parliament of 17 May 2017 on FinTech: the influence of technology on the future of the financial sector,

Amendment 2

Proposal for a regulation
Recital 4

Text proposed by the Commission

(4) Pursuant to [reference to be updated as appropriate according to a new decision on OCTs: Article 88 of Council Decision /EU53], persons and entities established in overseas countries and territories (OCTs) should be eligible for funding subject to the rules and objectives of the Programme and possible arrangements applicable to the Member State to which the relevant overseas country or territory is linked.

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53 Council Decision /EU.

Amendment 3

Proposal for a regulation
Recital 5

(4) Pursuant to [reference to be updated as appropriate according to a new decision on OCTs: Article 88 of Council Decision /EU53], persons and entities established in overseas countries and territories (OCTs) should be eligible for funding subject to the rules and objectives of the Programme and possible arrangements applicable to the Member State to which the relevant overseas country or territory is linked. The constraints relating to the participation of overseas countries or territories must be taken into account when implementing the Programme, and their effective participation in the Programme must be monitored and regularly evaluated.

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53 Council Decision /EU.
Pursuant to paragraph 22 and 23 of the Inter-institutional agreement for Better Law-Making of 13 April 2016, there is a need to evaluate this Programme on the basis of information collected through specific monitoring requirements, while avoiding overregulation and administrative burdens, in particular on Member States. These requirements, where appropriate, can include measurable indicators, as a basis for evaluating the effects of the Programme on the ground.

The Programme should ensure utmost transparency, accountability and democratic scrutiny of innovative
Amendment 5
Proposal for a regulation
Recital 6

Text proposed by the Commission

(6) The Tallinn Digital Summit\(^{55}\) of September 2017 and the Conclusions of the European Council\(^{56}\) of 19 October 2017 indicated the need for Europe to invest in digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires collectively tackling some of the challenges posed by the digital transformation and reviewing policies affected by the digital transformation.

Amendment

(6) The Tallinn Digital Summit\(^{55}\) of September 2017 and the Conclusions of the European Council\(^{56}\) of 19 October 2017 indicated the need for Europe to invest in efficient digitalisation of our economies and addressing the skills gap to maintain and enhance European competitiveness and innovation, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires collectively tackling the challenges posed by the digital transformation in several ways, including by ensuring that the essential building blocks on which new technologies rely are put in place, by creating effective and easily enforceable legal rules, by reviewing policies affected by the digital transformation, and by creating an innovation-friendly environment in which the interests of users are fully safeguarded. Optimally, the financial envelope for this Programme, a European level effort, shall be increased by significant private sector funds and contributions from the Member States.
Amendment 6
Proposal for a regulation
Recital 6 a (new)

Text proposed by the Commission

(6 a) The future of European society and the European economy will strongly rely on a harmonised and consistent spectrum policy, on 5G infrastructure, which will require an infrastructure objective regarding VHC networks, with the aim of providing high-quality and faster communication services; this is a prerequisite for the good implementation of this Programme. In this regard, the Programme should benefit of the good implementation of Connecting Europe Facility and in particular the Wif4EU initiative aiming to promote connectivity for citizens in the Union’s public spaces; the combination of those two programmes will maximise output and deliver on the Union targets of deliver reliable and consistent high-speed network coverage across the Union.

Amendment 7
Proposal for a regulation
Recital 7

Text proposed by the Commission

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as artificial intelligence and distributed ledgers technologies (e.g.

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as digital divide, artificial intelligence, while at the same time
ensuring a high level of data protection in full compliance with Regulation (EU) 2016/679, rights, fundamental rights and ethical standards. The European Council invited the Commission to put forward a European approach to artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry.

Amendment 8
Proposal for a regulation
Recital 7 a (new)

Text proposed by the Commission

(7a) On 10 April 2018 Member States expressed their support and a joint will to cooperate together on initiatives on artificial intelligence and distributed ledger technologies (for example blockchain) infrastructure services by signing cooperation agreements.

Amendment 9
Proposal for a regulation
Recital 7 b (new)

Text proposed by the Commission

(7b) For a successful implementation of this Programme, more is needed than following the trends. The Union needs to be committed to privacy-enabling technologies (i.e. cryptography and decentralised applications (DApps)) as well as increased investments in future-proof infrastructure (fibre-optic networks) to enable a self-determined digitalised society.
Amendment 10
Proposal for a regulation
Recital 7 c (new)

*Text proposed by the Commission*

(7c) *Europe has to make decisive investments in its future, building strategic digital capacities in order to benefit from the digital revolution. A substantial budget (of at least 9.2 billion euro) must be ensured at EU level for this purpose, which must be complemented by sizable investment efforts at national and regional level, namely with a consistent and complementary relationship with structural and cohesion funds.*

Amendment 11
Proposal for a regulation
Recital 8

*Text proposed by the Commission*

(8) *The Commission's Communication on 'A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020' outlines among the options for the future financial framework a programme for Europe's digital transformations to deliver ‘strong progress towards smart growth in areas such as high quality data infrastructure, connectivity and cybersecurity’. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It would reinforce the competitive position of industry and businesses in Europe across the digitised economy and would have a significant impact on filling the skills gap across the Union.*
the digital transformation.

Amendment 12
Proposal for a regulation
Recital 8 a (new)

Text proposed by the Commission

(8a) Whereas in view of the delay in developing the Union’s strategic digital capacities and the efforts made to remedy this, a budget commensurate with the ambitions of this programme and of at least EUR 9.2 billion should be guaranteed.

Amendment 13
Proposal for a regulation
Recital 9

Text proposed by the Commission

(9) The Communication “Towards a common European data space”\(^{58}\), addresses the new measure to be taken as a key step towards a common data space in the EU - a seamless digital area with a scale that will enable the development of new products and services based on data.

Amendment 14
Proposal for a regulation
Recital 9 a (new)

Text proposed by the Commission

(9) The Communication “Towards a common European data space”\(^{58}\), addresses the new measure to be taken as a key step towards a common data space in the EU - a seamless digital area with a scale that will enable the development and innovation of new products and services based on data.

\(^{58}\) COM (2018) 125 final
(9a) The Next Generation Internet initiative launched by the European Commission in 2017 should also provide ground for the implementation of the Programme as it aims towards a more open Internet with better services, more intelligence, greater involvement and participation, addressing technological opportunities arising from advances in various research fields, extending from new network architectures and software-defined infrastructures to new concepts for services and applications.

Amendment 15
Proposal for a regulation
Recital 10

Text proposed by the Commission

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development as well as to modernise specific sectors of public interest, for the benefit of businesses, especially SMEs, and citizens all over the Union. Furthermore, the Programme should strengthen the Union’s competitiveness and the resilience of its economy.

Amendment 16
Proposal for a regulation
Recital 10 a (new)
There is a pressing need to support SMEs intending to harness the digital transformation in their production processes. Digital research and innovation will allow SMEs to contribute to the growth of the European economy through an efficient use of resources.

The Programme should be structured into five specific objectives reflecting key policy areas, namely: (a) high-performance computing, (b) artificial intelligence and distributed ledger technologies, (c) cybersecurity, (d) advanced digital skills, and (e) deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Together with the general objective of digital transformation, the Programme should contribute to ensuring long-term strategic security objectives by building capacities and capabilities in the Union, giving priority to actions that increase the strategic potential and limit
dependence on third countries suppliers and products, thereby securing the Union's economic and innovative competitiveness.

Amendment 19

Proposal for a regulation
Recital 11

Text proposed by the Commission

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe\(^{59}\). A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market.

Amendment

(11) A central role in the implementation of the Programme should be attributed to European Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry including SMEs, by public organisations and academia. A network of European Digital Innovation Hubs should ensure the widest geographical coverage across Europe\(^{59}\). A first set of European Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open, transparent and competitive process. The European Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as one-stop-shops in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of European Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market and support the digital transformation in the overseas countries and territories.

\(^{59}\) As indicated in the Communication on

RR\1170470EN.docx 15/303 PE625.457v02-00
Amendment 20
Proposal for a regulation
Recital 11 a (new)

Text proposed by the Commission

(11 a) In order to create synergies between investments under this Programme and Union research and development investments, in particular those under the Horizon Europe programme, European Digital Innovation Hubs should act as a platform to bring together industry, business and administrations which are in need of new technology solutions on one side, with companies, notably start-ups and SMEs, that have market-ready solutions on the other side.

Amendment

Amendment 21
Proposal for a regulation
Recital 11 b (new)

Text proposed by the Commission

(11b) The planning, development and procurement of the programme should be carried out with a view to enhancing Union capacities and competitiveness in the medium and long term. Priority should be given to actions that increase the strategic potential and competitiveness of the Union which aim at limit the dependence on third countries suppliers and products. The participation of third countries to Specific objectives of the Programme should therefore depend on the contribution such countries would make to the Union.
Amendment 22
Proposal for a regulation
Recital 12

_text proposed by the Commission_

(12) The Programme should be implemented through projects reinforcing essential digital capacities and _their wide use_. This should involve co-investments with Member States and, when needed, the private sector. This should notably require reaching a critical mass in procurement to obtain better value for money and guarantee that suppliers in Europe stay at the forefront of technology advancements.

Amendment 23
Proposal for a regulation
Recital 14

_text proposed by the Commission_

(14) The Programme's actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

Amendment

(14) The Programme's actions should be used to reinforce and extend the Union's digital base, tackle major societal challenges, further raise the Union's digital industrial competences, as well as address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

_Justification_

The Digital Programme should not only address market failures and problems, but should also help the Union to extent, safeguard or support to achieve technological, digital and industrial leadership.

Amendment 24
Proposal for a regulation
Recital 15

Text proposed by the Commission

(15) To achieve maximum flexibility throughout the lifetime of the programme and develop synergies between its components, each of the specific objectives may be implemented through all instruments available under the Financial Regulation. The delivery mechanisms to be used are direct management and indirect management when Union financing should be combined with other sources of financing or when execution requires the setup of commonly governed structures.

Amendment

(15) To achieve maximum flexibility throughout the lifetime of the programme and develop synergies between its components, each of the specific objectives may be implemented through all instruments available under the Financial Regulation. The delivery mechanisms to be used are direct management and indirect management when Union financing should be combined with other sources of financing or when execution requires the setup of commonly governed structures. In cases of indirect management, the Commission will ensure that all quality and safety standards required for the direct management of the programme are maintained and respected.

Amendment 25

Proposal for a regulation
Recital 16

Text proposed by the Commission

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment

(16) The high performance computing and the related data processing and storage capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises. The Union needs to acquire world-class supercomputers, secure its supply system and deploy services for simulation, visualisation and prototyping while ensuring a HCP system in accordance with Union values and principles.
Amendment 26

Proposal for a regulation
Recital 17

(Text proposed by the Commission)

(17) The support to the Union's intervention in this area was expressed by the Council\(^60\) and, by the European Parliament\(^61\). Moreover, in 2017 nine Member States signed the EuroHPC Declaration\(^62\), a multi-government agreement where they commit to collaborate with the Commission to build and deploy state-of-the-art HPC and data infrastructures in Europe that would be available across the Union for scientific communities, public and private partners.

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Amendment 27

Proposal for a regulation
Recital 18

(Text proposed by the Commission)

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union\(^63\). Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, academia and strengthening the EU-added value.

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(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union\(^63\). Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, including...
and public administrations.


Amendment 28
Proposal for a regulation
Recital 19

Text proposed by the Commission

(19) Developing capacity related to artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in factories, deep sea application, homes, cities and hospitals. Commercial artificial intelligence platforms have moved from testing to real applications in health and environment; all major car manufacturers are developing self-driving cars, and machine learning techniques are at the heart of all main web platforms and big data applications.

Amendment

(19) Developing capacity related to artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in factories, deep sea application, homes, cities and hospitals. Commercial artificial intelligence platforms have moved from testing to real applications in health and environment; all major car manufacturers are developing self-driving cars, and machine learning techniques are at the heart of all main web platforms and big data applications. In order to create the best framework conditions for these new technologies to foster in Europe, the Union needs to add the innovation principle to its policy-making process.

Amendment 29
Proposal for a regulation
Recital 19 a (new)

Text proposed by the Commission

(19a) In its resolution of 1 June 2017 on

Amendment

(19a) In its resolution of 1 June 2017 on
digitising European industry the European Parliament pointed out the impact of language barriers on industry and its digitisation. In this context the development of large-scale AI-based language technologies such as automatic translation, speech recognition, big data text analytics, dialog and question-answering systems are essential to preserve linguistic diversity, ensure inclusiveness and enable human-human and human-machine communication.

Amendment 30
Proposal for a regulation
Recital 19 b (new)

Text proposed by the Commission

(19b) The increasingly rapid development of self-learning robots and artificial intelligence as well as their ability to multiply knowledge and learning content within seconds makes it difficult to predict any stage of development until the Programme’s termination in 2027. Consequently, the Commission should pay particular attention to this fast-evolving digital trend and, if applicable should swiftly adapt the objectives of the work programme, accordingly.

Amendment 31
Proposal for a regulation
Recital 19 c (new)

Text proposed by the Commission

(19c) In light of European industry’s increasing demand for AI robotics solutions and the importance of avoiding a significant investment gap in this field, the Programme’s objectives on artificial intelligence should encompass robotics
Amendment 32
Proposal for a regulation
Recital 19 d (new)

**Text proposed by the Commission**

(19d) *Products and services based on artificial intelligence should be user-friendly, legally compliant by default and provide consumers with more choice and more information, in particular on the quality of products and services.*

Amendment 33
Proposal for a regulation
Recital 20

**Text proposed by the Commission**

(20) The availability of large-scale data sets and testing and experimentation facilities are of major importance for the development of artificial intelligence.

**Amendment**

(20) *The availability of large-scale data sets and testing and experimentation facilities to secure the internal market where artificial intelligence is used and access to text and data mining are of major importance for the development of artificial intelligence, including language technologies.*

Amendment 34
Proposal for a regulation
Recital 20 a (new)

**Text proposed by the Commission**

(20a) On 25 April 2018 the Commission committed to propose a European approach by developing draft Artificial Intelligence guidelines in cooperation with stakeholders within the AI alliance, a group of artificial intelligence experts, in order to boost AI-powered applications.
Amendment 35
Proposal for a regulation
Recital 21

Text proposed by the Commission

(21) In its resolution of 1 June 2017 on digitising European industry\(^4\) the European Parliament highlighted the importance of a common European cybersecurity approach, recognising the need to raise awareness and considered cyber-resilience as a crucial responsibility for business leaders and national and European industrial security policymakers.

\(\text{\textsuperscript{64}}\) Document ref. A8-0183/2017, available at:

Amendment 36
Proposal for a regulation
Recital 22

Text proposed by the Commission

(22) Cybersecurity is a challenge for the whole Union that cannot continue to be addressed only with fragmented national initiatives. Europe's cybersecurity capacity should be reinforced to endow Europe with the necessary capacities to protect its citizens and businesses from cyber threats. In addition consumers should be protected when using connected products that can be hacked and compromise their safety. This should be achieved together with Member States and private sector by developing,

\(\text{\textsuperscript{64}}\) Document ref. A8-0183/2017, available at:
and ensuring coordination between, projects reinforcing Europe's capacities in cybersecurity and ensuring the wide deployment of latest cybersecurity solutions across the economy, as well as by aggregating the competences in this field to ensure critical mass and excellence.

Amendment 37
Proposal for a regulation
Recital 23

*Text proposed by the Commission*

(23) In September 2017, the Commission put forward a package of initiatives setting out a comprehensive Union approach to cybersecurity, with the aim of reinforcing Europe’s capacities to deal with cyber-attacks and threats and to strengthen technology and industrial capacity in this field.

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*Amendment*

(23) In September 2017, the Commission put forward a package of initiatives setting out a comprehensive Union approach to cybersecurity, with the aim of reinforcing Europe’s capacities to deal with cyber-attacks, to increase cyber resilience and threats and to strengthen technology and industrial capacity in this field.

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Amendment 38

Proposal for a regulation
Recital 23 a (new)

*Text proposed by the Commission*

(23 a) As a matter of principle, cybersecurity solutions should contain safety and security standards as core design parameters according to the available state-of-the-art technology and the principles of ‘security by design’ and ‘security by default’.

*Amendment*

(23 a) As a matter of principle, cybersecurity solutions should contain safety and security standards as core design parameters according to the available state-of-the-art technology and the principles of ‘security by design’ and ‘security by default’.
Amendment 39

Proposal for a regulation
Recital 24

Text proposed by the Commission

(24) Trust is a prerequisite for the Digital Single Market to function. Cybersecurity technologies such as digital identities, cryptography or intrusion detection, and their application in areas such as finance, industry 4.0, energy, transportation, healthcare, or e-government are essential to safeguard the security and trust of online activity and transactions by both citizens, public administrations, and companies.

Amendment

(24) Trust is a prerequisite for the Digital Single Market to function. Cybersecurity technologies such as distributed ledger technology, digital identities, cryptography, encryption or intrusion detection, and their application in areas such as finance, industry 4.0, logistics, energy, transportation, tourism, healthcare, or e-government are essential to safeguard the security, transparency and trust of online activity, including 5G platforms, and transactions by both citizens, public administrations, and companies.

Amendment 40

Proposal for a regulation
Recital 25

Text proposed by the Commission

(25) The European Council in its conclusions of 19 October 2017 stressed that to successfully build a Digital Europe, the Union needs in particular labour markets, training and education systems fit for the digital age and that there is a need to invest in digital skills, to empower and enable all Europeans;

Amendment

(25) The European Council in its conclusions of 19 October 2017 stressed that to successfully build a Digital Europe, the Union needs in particular labour markets, training and education systems fit for the digital age and that there is a need to invest in digital skills development and improve the digital literacy, to empower and enable all Europeans with an integrated approach.;

Amendment 41

Proposal for a regulation
Recital 26 a (new)

Text proposed by the Commission

Amendment
Considering the need for a holistic approach, the Programme should also take into account the areas of inclusion, qualification, training and specialization which, in addition to the advanced digital competences, are decisive for the creation of added value in the knowledge society.

Amendment 42
Proposal for a regulation
Recital 27

Text proposed by the Commission

(27) In its resolution of 1 June 2017 on digitising European industry the European Parliament stated that education, training and lifelong learning are the cornerstone of social cohesion in a digital society.

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Amendment 43
Proposal for a regulation
Recital 27 a (new)

Text proposed by the Commission

(27 a) In its resolution of 28 April 2016 on gender equality and empowering women in the digital age the European Parliament underlined the need of collecting gender-disaggregated data on

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the use of ICT, and of developing targets, indicators and benchmarks to track the progress of women’s access to ICT and promote best practices examples among companies;

Amendment 44

Proposal for a regulation
Recital 27 b (new)

Text proposed by the Commission

(27 b) In its resolution of 21 December 2015, Towards a Digital Single Market Act, the European Parliament fully supported and encouraged a digital entrepreneurial culture for women, as well as their integration and participation in information society.

Amendment 45

Proposal for a regulation
Recital 28

Text proposed by the Commission

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union’s economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe.
programmes. Programme are complementary to those supported by the ESF, ERDF, **ERASMUS** and Horizon Europe programmes.

**Amendment 46**

Proposal for a regulation
Recital 29

*Text proposed by the Commission*

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe.

*Amendment*

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on citizens and industry by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency, transparency and the quality of the services provided to citizens and businesses while at the same time increasing the efficiency of public spending. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses may benefit from the access to high quality multilingual digital services across Europe. It is also important that these services be accessible to people with disabilities.

**Amendment 47**

Proposal for a regulation
Recital 29 a (new)

*Text proposed by the Commission*

(29a) Digitalisation can facilitate and improve barrier-free accessibility for everyone, including older people, persons with reduced mobility or a disability, and those in remote or rural areas.

*Amendment*

(29a) Digitalisation can facilitate and improve barrier-free accessibility for everyone, including older people, persons with reduced mobility or a disability, and those in remote or rural areas.
Proposal for a regulation  
Recital 30  

_text proposed by the Commission_  

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, education and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies.

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Amendment

Proposal for a regulation  
Recital 30 a (new)  

_text proposed by the Commission_  

(30a) The digital transformation of this sector must in all circumstances allow EU citizens to access, use and manage their personal data securely across borders, irrespective of their location or the location of the data.

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Amendment 50
Proposal for a regulation
Recital 30b (new)

Text proposed by the Commission

(30b) The deployment and access to advanced technologies in areas of public interest, such as education, also require training in skills necessary to make use of these technologies. Therefore the objectives included in Specific Objective 8 should also cover training programmes for those persons who will be using the advanced technologies.

Amendment 51
Proposal for a regulation
Recital 32

Text proposed by the Commission

(32) The modernisation of European public administrations is one of the key priorities for successful implementation of the Digital Single Market Strategy. The mid-term evaluation of the Strategy highlighted the need to strengthen the transformation of public administrations and to ensure citizens have easy, trusted, and seamless access to public services.

Amendment 52
Proposal for a regulation
Recital 33

Text proposed by the Commission

(33) The Annual Growth Survey published by the Commission in 2017 shows that the quality of European public administrations has a direct impact on the economic environment and is therefore
crucial to stimulating productivity, competitiveness, economic cooperation, growth and employment. In particular, efficient and transparent public administration and effective justice systems are necessary to support economic growth and deliver high quality services for firms and citizens.

69 COM(2016) 725 final

Amendment 53

Proposal for a regulation
Recital 34

Text proposed by the Commission

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates successful implementation of policies and offers great potential to avoid cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, common public services at Union level. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, and the most responsive to end-users. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates cross-border co-operation, alignment of common standards, successful implementation of policies and offers great potential to avoid cross-border electronic and language barriers, to cut red tape, further securing the emergence of new, or the consolidation of developing, common public services at Union level as well as preventing unnecessary double-storage. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic, technology-neutral cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, and the most responsive to end-users and that ensures a high level of data protection. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the
usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment 54
Proposal for a regulation
Recital 34 a (new)

Text proposed by the Commission

(34 a) On 6 October 2017, EU Ministers in Tallinn stated that the European digital strategy should be based on collaboration and interoperability, including the use of open licensing policies and open standards. The programme should, therefore, encourage open source solutions in order to allow reuse, increase trust and secure transparency. This will have a positive impact on the sustainability of funded projects.

Amendment 55
Proposal for a regulation
Recital 37

Text proposed by the Commission

(37) In April 2016 the Commission adopted the Digitising European Industry initiative to ensure that "any industry in Europe, big or small, wherever situated and in any sector can fully benefit from digital innovations". This is of particular relevance to small and medium enterprises in the cultural and creative sectors.

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Amendment 56

Proposal for a regulation
Recital 39

Text proposed by the Commission

(39) Reaching the target objectives may require leveraging the potential of complementary technologies in the networking and computing domains, as stated in the Communication "Digitising European Industry"\(^{73}\) that recognises "availability of world class networking and cloud infrastructure" as an essential ingredient of industry digitisation.

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Amendment

(39) Reaching the target objectives may require leveraging the potential of complementary technologies in the networking and computing domains, as stated in the Communication "Digitising European Industry"\(^{73}\) that recognises "availability of world class networking and cloud infrastructure" as an essential component of industry digitisation.

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\(^{73}\) COM (2016) 180 final: Digitising European Industry – Reaping the full benefits of a digital single market.

Amendment 57

Proposal for a regulation
Recital 40

Text proposed by the Commission

(40) The General Data Protection Regulation (GDPR), applicable from May 2018 onwards, by providing for a single set of rules directly applicable in the Member States legal orders, will guarantee the free flow of personal data between EU Member States and reinforce trust and security of the individuals, two indispensable elements for a real Digital Single Market. The actions undertaken under this Programme, when they involve the processing of personal data, should therefore support the application of the GDPR, for instance in the field of artificial intelligence and blockchain technology.

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Amendment

(40) Regulation (EU) 2016/679 by providing for a single set of rules directly applicable in the Member States legal orders guarantees the free flow of personal data between EU Member States and reinforces trust and security of the individuals, two indispensable elements for a real Digital Single Market. All actions undertaken under this Programme, when they involve the processing of personal data, should therefore be in full compliance with that Regulation. They should especially support the development of digital technologies that comply with the ‘data protection by design’ obligations which are binding pursuant to that Regulation to the extent that the processing involves electronic communications data, due respect is to be
paid to Directive 2002/58/EC of the European Parliament and of the Council. They should especially support the development of digital technologies that comply with the “data protection by design” obligations which are binding pursuant to the GDPR.

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Amendment 58

Proposal for a regulation
Recital 41

Text proposed by the Commission

(41) The Programme should be implemented in full respect of the international and EU framework of intellectual property protection and enforcement. The effective protection of intellectual property plays a key role in innovation and thus is necessary for the effective implementation of the Programme.

Amendment

(41) To the extent that bodies implementing this Programme handle sensitive non-classified information or Union classified information, they should

Amendment 59

Proposal for a regulation
Recital 42

Text proposed by the Commission

(42) Bodies implementing this Programme should comply with the provisions applicable to the Union institutions, and with national legislation

Amendment

(42) To the extent that bodies implementing this Programme handle
regarding the handling of information, in particular sensitive non-classified information and EU classified information. respect the relevant provisions laid down in Union acts or national legislation regarding the handling of information, as applicable.

Amendment 60
Proposal for a regulation
Recital 43

Text proposed by the Commission

(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and lead to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives. Relevant actions will be identified during the Programme's preparation and implementation, and reassessed in the context of the relevant evaluations and review processes.

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74 COM(2018) 321 final, page 1

Amendment

(43) Reflecting the importance of tackling climate change in line with the Union’s obligations to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and help leading to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives. Relevant actions should be identified during the Programme's preparation and implementation, and reassessed in the context of the relevant evaluations and review processes in order to ensure full compliance with these obligations.

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74 COM(2018) 321 final, page 1

Amendment 61
Proposal for a regulation
Recital 44

Text proposed by the Commission

(44) In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission for the adoption of the work programmes so that the objectives of the Programme are achieved in accordance with the Union’s and Member States' priorities while

Amendment
deleted
ensuring consistency, transparency and continuity of joint action by the Union and the Member States. Those powers should be exercised in accordance with the advisory procedure referred to in Article 4 of Regulation (EU) 182/2011 laying down the rules and general principles concerning mechanisms for control by the Member States of the Commission's exercise of implementing powers.


Amendment 62

Proposal for a regulation
Recital 45

Text proposed by the Commission  

(45) The work programmes should be adopted in principle as multi-annual work programmes, typically every two years, or, if justified by the needs related to the implementation of the programme, annual work programmes. The types of financing and the methods of implementation under this Regulation should be chosen on the basis of their ability to achieve the specific objectives of the actions and to deliver results, taking into account, in particular, the costs of controls, the administrative burden, and the expected risk of non-compliance. This should include consideration of the use of lump sums, flat rates and unit costs, as well as financing not linked to costs as referred to in Article 125(1) of the Financial Regulation.

Amendment

(45) Work programmes should be adopted so that the objectives of the Programme are achieved in accordance with the Union's and Member States' priorities, while ensuring consistency, transparency and continuity of joint action by the Union and the Member States. The work programmes should be adopted in principle every two years, or, if justified by the needs related to the implementation of the programme, on an annual basis. The types of financing and the methods of implementation under this Regulation should be chosen on the basis of their ability to achieve the specific objectives of the actions and to deliver results, taking into account, in particular, the costs of controls, the administrative burden, and the expected risk of non-
compliance. This should include consideration of the use of lump sums, flat rates and unit costs, as well as financing not linked to costs as referred to in Article 125(1) of the Financial Regulation.

Amendment 63
Proposal for a regulation
Recital 46

Text proposed by the Commission

(46) The power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission concerning amendments to Annex II to review and/or complement the indicators. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

Amendment

(46) The power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission concerning amendments to Annexes I and II to review and/or complement the indicators. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

Amendment 64
Proposal for a regulation
Recital 46 a (new)

Text proposed by the Commission

(46a) In order to ensure, maintain and develop long term financing for the Digital Europe Programme it requires clear, common EU rules that are future-
oriented and pro-competitive in order to drive investment and innovation and preserve affordability;

Amendment 65
Proposal for a regulation
Recital 47

_text proposed by the Commission_

(47) _This Regulation respects_ fundamental rights and _observe_ the principles _recognised in_ the Charter of Fundamental Rights of the European _Unions_, notably those referred under Articles [8], [11], [16], [21], [35], [38] and [47] regarding the protection of personal data, the freedom of expression and information, the freedom to conduct business, the prohibition of discrimination, healthcare, consumer protection and the right to effective remedy and fair trial. _The Member States must apply this Regulation in a manner consistent with these rights and principles._

Amendment

(47) _Actions which fall within the scope of the Programme should respect_ fundamental rights and _observe_ the principles _acknowledged in particular by_ the Charter of Fundamental Rights of the European _Union_, notably those referred under Articles [8], [11], [16],[21], [22]/[35], [38], [41] and [47] regarding the protection of personal data, the freedom of expression and information, the freedom to conduct business, the prohibition of discrimination, _linguistic diversity and right to communicate in any of the EU languages_, healthcare, consumer protection and the right to effective remedy and fair trial. _Such actions should be in conformity with any legal obligation including international law and with any relevant Commission decisions, as well as with ethical principles, which include avoiding any breach of research integrity._

Amendment 66
Proposal for a regulation
Recital 47 a (new)

_text proposed by the Commission_

(47 a) _In April 2018 the Commission committed to set up a framework for stakeholders and experts to develop draft Artificial Intelligence guidelines in cooperation with the European Group on Ethics in Science and New Technologies; the Commission will support national and_
EU-level consumer organisations and data protection supervising authorities in building an understanding of AI-powered applications with the input of the European Consumer Consultative Group and the European Data Protection Board.

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Amendment 67

Proposal for a regulation
Recital 48

Text proposed by the Commission

Amendment

(48) Third countries which are members of the European Economic Area (EEA) may participate in Union programmes in the framework of the cooperation established under the EEA agreement, which provides for the implementation of the programmes by a decision under that agreement. A specific provision should be introduced in this Regulation to grant the necessary rights for and access to the authorizing officer responsible, the European Anti-Fraud Office (OLAF) as well as the European Court of Auditors to comprehensively exert their respective competences.

Amendment 68

Proposal for a regulation
Article 1 – paragraph 1

Text proposed by the Commission

Amendment

This Regulation establishes the Digital

This Regulation establishes the Digital
Europe programme (‘Programme’).  

Amendment 69  
Proposal for a regulation  
Article 2 – paragraph 1 – point e  

Text proposed by the Commission

(e) ‘Digital Innovation Hub’ means legal entity designated or selected in an open and competitive procedure in order to fulfil the tasks under the Programme, in particular providing access to technological expertise and experimentation facilities, such as equipment and software tools to enable the digital transformation of the industry.

Amendment

(e) ‘European Digital Innovation Hub’ means an existing or new legal entity or a consortium of legal entities designated or selected in an open, transparent and competitive procedure in order to fulfil the tasks under the Programme, in particular providing access to technological expertise and experimentation facilities, such as equipment and software tools to enable the digital transformation of the industry as well as facilitating access to finance. European Digital Innovation Hub shall be open to business of all forms and sizes, in particular to SMEs, scale-ups and public administrations across the Union. European Digital Innovation Hubs shall act as one-stop-shops where companies - especially SMEs, start-ups and mid-caps – can get help to improve their business, production processes, products and services by means of digital technology that could result in added value. The Hubs will therefore create a decentralised network across the Union offering support to companies to ensure that their employees’ skills match the expertise required to handle the available digital technology. The Hubs shall also coordinate with education providers with a view to supporting training for students and on-the-job training for workers.
Article 2 – paragraph 1 – point f a (new)

Text proposed by the Commission

Amendment

(fa) "media literacy" means the analytical skills necessary to find one’s path of understanding throughout the digital world.

Amendment 71

Proposal for a regulation
Article 2 – paragraph 1 – point f b (new)

Text proposed by the Commission

Amendment

(fb) 'European Partnership' means an initiative where the Union, together with private and/or public partners (such as industry, research organisations, bodies with a public service mission at local, regional, national or international level or civil society organisations including foundations, SMEs organisations), commit to jointly support the development and implementation of digital innovation and technological deployment activities, including those related to market, regulatory or policy uptake;

Amendment 72

Proposal for a regulation
Article 2 – paragraph 1 – point f c (new)

Text proposed by the Commission

Amendment

(fc) ‘small and medium-sized enterprises’ or ‘SMEs’ means small and medium-sized enterprises as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC;
Amendment 73

Proposal for a regulation
Article 2 – paragraph 1 – point f d (new)

Text proposed by the Commission

(†d) ‘consortium’ means a collaborative grouping of undertakings constituted to carry out an action under the Programme.

Amendment 74

Proposal for a regulation
Article 3 – paragraph 1 – introductory part

Text proposed by the Commission

1. The Programme has the following general objective: to support and to accelerate the digital transformation of the European economy and society and to bring its benefits to European citizens and businesses. The Programme will:

Amendment

1. The Programme has the following general objective: to support and to accelerate the digital transformation of the European economy, industry and society and to bring its benefits to European citizens, public services and businesses, as well as to reinforce the strategic autonomy and cohesion of the Union while securing competitiveness and reducing the digital divide. The Programme shall:

Amendment 75

Proposal for a regulation
Article 3 – paragraph 1 – point b

Text proposed by the Commission

(b) widen their diffusion and uptake in areas of public interest and the private sector.

Amendment

(b) widen their diffusion and uptake in the private sector and in areas of public interest, supporting their digital transformation and ensuring access to digital technologies;

Amendment 76
Proposal for a regulation
Article 4 – paragraph 1 – point a

Text proposed by the Commission

(a) deploy, coordinate at the Union level and operate an integrated world-class exascale\(^77\) supercomputing and data infrastructure in the Union that shall be accessible on a non-commercial basis to public and private users and for publicly funded research purposes;

\(^{77}\) Billions of billions of floating operations per second

Amendment

(a) deploy, coordinate at the Union level and operate an interoperable world-class exascale\(^77\) supercomputing and data infrastructure in the Union that shall be accessible to public and private users and for publicly and privately funded research purposes;

\(^{77}\) Billions of billions of floating operations per second

Amendment 77

Proposal for a regulation
Article 4 – paragraph 1 – point b

Text proposed by the Commission

(b) deploy ready to use/operational technology resulting from research and innovation to build an integrated Union high performance computing ecosystem, covering all scientific and industrial value chain segments, including hardware, software, applications, services, interconnections and digital skills;

Amendment

(b) deploy ready to use/operational technology resulting from research and innovation to build an integrated Union high performance computing ecosystem, covering all scientific and industrial value chain segments, including hardware, software, applications, services, interconnections and digital skills, ensuring a high level of security and data protection;

Amendment 78

Proposal for a regulation
Article 4 – paragraph 1 – point c

Text proposed by the Commission

(c) deploy and operate a post-exascale\(^78\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures;

Amendment

(c) deploy and operate a post-exascale\(^78\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures; encourage the

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infrastructures for computing science.

development within the Union of the
hardware and software necessary for such
development, for computing science.

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78 A thousand times faster than exascale

Amendment 79

Proposal for a regulation
Article 4 – paragraph 1 a (new)

Text proposed by the Commission

1a. The actions under Specific Objective 1 shall be primarily implemented through the Joint Undertaking proposed by the Commission and endorsed by the Council of Ministers on 25 of June 2018 in accordance with Regulation (EU) ... of the European Parliament and of the Council1a.

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Amendment 80

Proposal for a regulation
Article 5 – paragraph 1 – point a

Text proposed by the Commission

(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in compliance with data protection legislation;

Amendment

(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms. In compliance with data protection legislation, AI-based solutions and resources made available shall respect the principle of privacy and security by design; and ensuring that humans remain at the centre of the
development and deployment of Artificial intelligence,

Amendment 81

Proposal for a regulation
Article 5 – paragraph 1 – point b

Text proposed by the Commission

(b) make those capacities accessible to all businesses and public administrations;

Amendment

(b) make those capacities accessible to businesses, especially SMEs and start-ups, and public administrations including not-for-profit organisations, research institutions, universities,

Amendment 82

Proposal for a regulation
Article 5 – paragraph 1 – point c a (new)

Text proposed by the Commission

(c a) to develop and reinforce industrial application and production systems, facilitating integration of technologies in value chains, development of innovative business models, and shortening the time passed from innovation to industrialisation; and to foster the take up of AI-based solution in areas of public interest and society

Amendment

Amendment 83

Proposal for a regulation
Article 5 – paragraph 1 a (new)

Text proposed by the Commission

The actions under this specific objective Artificial Intelligence shall be implemented exclusively through direct management by the Commission or an executive agency on the basis of a cost-
benefit analysis.

Amendment 84

Proposal for a regulation
Article 5 – paragraph 1 b (new)

Text proposed by the Commission

Amendment

Actions carried out under Specific objective 2 shall comply with ethical principles and relevant national, Union and international laws, including the Charter of Fundamental Rights of the European Union and the European Convention of Human Rights and the Protocol thereto. The Commission taking into account the recommendations of the High-Level Expert Group on Artificial Intelligence shall specify conditions related to ethical issues in the work programmes under Specific objective 2. The calls or the grant agreements shall include relevant conditions as set out in work programmes. An ethical review of each project shall be performed during the evaluation of each action. Actions that are not ethically acceptable or that do not fulfil the conditions agreement shall not be eligible for funding.

Amendment 85

Proposal for a regulation
Article 6 – paragraph 1 – point a

Text proposed by the Commission

Amendment

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation;

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in order to achieve a common high level of cybersecurity at the European level, in full compliance with data protection legislation and the fundamental rights while ensuring EU
Amendment 86

Proposal for a regulation
Article 6 – paragraph 1 – point b

Text proposed by the Commission
(b) support the best use of European knowledge, capacity and skills related to cybersecurity;

Amendment
(b) support the best use and the increase of European knowledge, capacity and skills related to cybersecurity; and the sharing and mainstreaming of best practices,

Amendment 87

Proposal for a regulation
Article 6 – paragraph 1 – point c

Text proposed by the Commission
(c) ensure a wide deployment of the latest cybersecurity solutions across the economy;

Amendment
(c) ensure a wide deployment of the latest cybersecurity solutions across the economy; with special attention to public services and essential economic operators such as SMEs;

Amendment 88

Proposal for a regulation
Article 6 – paragraph 1 – point d

Text proposed by the Commission
(d) reinforce capabilities within Member States and private sector to help them meet Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union79.

Amendment
(d) reinforce capabilities within Member States and private sector to help them meet Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union79 including through measures aiming at developing a cybersecurity culture within organisations.
Amendment 89

Proposal for a regulation
Article 6 – paragraph 1 – point d a (new)

Text proposed by the Commission

(d a) improve resilience against cyber-attacks, to increase risk awareness and knowledge of basic security processes among users, particularly public services, SMEs and start-ups, to ensure that companies have basic levels of security, such as end-to-end encryption of data and communications and software updates, and to encourage the use of the security-by-design and by default knowledge of basic security processes as well as cyber-hygiene;

Amendment 90

Proposal for a regulation
Article 6 – paragraph 1 a (new)

Text proposed by the Commission

The actions under Specific objective 3 Cybersecurity and trust shall be primarily implemented through the European Cybersecurity Industrial, Technology and Research Competence Centre and the Cybersecurity Competence Network in accordance with [Regulation ..... of the European Parliament and of the Council].

\[1a\] Regulation ..... of the European Parliament and of the Council establishing the European Cybersecurity Industrial, Technology and Research
Amendment 91

Proposal for a regulation
Article 7 – paragraph 1 – introductory part

Text proposed by the Commission

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

Amendment

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Union's talent pool, reducing the digital divide, fostering greater professionalism on a gender balance way, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics, artificial intelligence, cloud computing, communication systems and networks, data protection competencies, artificial intelligence. To stimulate and improve labour market, and specialisation in digital technologies and applications, the financial intervention shall pursue the following operational objectives:

Amendment 92

Proposal for a regulation
Article 7 – paragraph 1 – point a

Text proposed by the Commission

(a) support the design and delivery of long-term trainings and courses for students, IT professionals and the workforce;

Amendment

(a) support the design and delivery of high quality long-term training courses including blended learning for students, teachers, educators, IT professionals, researchers and the workforce including public servants, in collaboration with schools, universities and research centres;
Amendment 93

Proposal for a regulation
Article 7 – paragraph 1 – point b

**Text proposed by the Commission**

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce;

**Amendment**

(b) support the design and delivery of high quality short-term trainings and courses including blended learning for entrepreneurs, small business and start-up leaders, and the workforce including public servants and self-employed;

Amendment 94

Proposal for a regulation
Article 7 – paragraph 1 – point c

**Text proposed by the Commission**

(c) support on-the-job trainings and traineeships for students, young entrepreneurs and graduates.

**Amendment**

(c) support high quality on-the-job trainings, including blended learning and traineeships for students, young entrepreneurs and graduates.

Amendment 95

Proposal for a regulation
Article 7 – paragraph 1 a (new)

**Text proposed by the Commission**

The actions under Specific objective 4 Advanced Digital Skills shall be primarily implemented through direct management by the European Commission. The European Digital Innovation Hubs may act as facilitators for training opportunities, advising companies and liaising with the appropriate competence centres to ensure the widest geographical coverage across the Union.

**Amendment**

The actions under Specific objective 4 Advanced Digital Skills shall be primarily implemented through direct management by the European Commission. The European Digital Innovation Hubs may act as facilitators for training opportunities, advising companies and liaising with the appropriate competence centres to ensure the widest geographical coverage across the Union.
**Amendment 96**

Proposal for a regulation
Article 8 – paragraph 1 – introductory part

*Text proposed by the Commission*

The financial intervention by the Union under Specific Objective 5. Deployment, best use of digital capacities and Interoperability shall achieve the following operational objectives:

*Amendment*

The financial intervention by the Union under Specific Objective 5. Deployment, best use of digital capacities and Interoperability shall achieve the following operational objectives complementing the digital infrastructure actions to that end while reducing the digital divide:

**Amendment 97**

Proposal for a regulation
Article 8 – paragraph 1 – point a

*Text proposed by the Commission*

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

*Amendment*

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport and communication energy, environment, cultural and creative sectors, as well business established within the Union can effectively deploy and have the necessary skills through training to use access state-of-the-art digital technologies, in particular high performance computing, language technology, artificial intelligence and cybersecurity

**Amendment 98**

Proposal for a regulation
Article 8 – paragraph 1 – point b

*Text proposed by the Commission*

(b) deploy, operate and maintain trans-European interoperable Digital Service Infrastructures (including related services) in complementarity with national and

*Amendment*

(b) deploy, operate and maintain trans-European interoperable state of the art Digital Service Infrastructures across the Union (including related services) in complementarity with national and
regional actions;

Amendment 99
Proposal for a regulation
Article 8 – paragraph 1 – point c

*Text proposed by the Commission*

(c) facilitate the development, update and use of solutions and frameworks by European public administrations, businesses and citizens, including the re-use of interoperability solutions and frameworks;

*Amendment*

(c) facilitate the development, update and use of solutions and frameworks by European public administrations, businesses and citizens, including *open source* and the re-use of interoperability solutions and frameworks;

Amendment 100
Proposal for a regulation
Article 8 – paragraph 1 – point d

*Text proposed by the Commission*

(d) offer to public administrations access to testing *and* piloting of digital technologies, including their cross-border use;

*Amendment*

(d) offer to public administrations access to testing piloting *and scaling-up* of digital technologies, including their cross-border use;

Amendment 101
Proposal for a regulation
Article 8 – paragraph 1 – point e

*Text proposed by the Commission*

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs;

*Amendment*

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, *distributed ledger technologies*, cybersecurity *data protection, cloud computing and information governance* and future emerging technologies by the Union industry, notably SMEs *and start-ups*;
Amendment 102

Proposal for a regulation
Article 8 – paragraph 1 – point f

Text proposed by the Commission

(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

Amendment

(f) support the design, maintain, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

Amendment 103

Proposal for a regulation
Article 8 – paragraph 1 – point g

Text proposed by the Commission

(g) ensure a continuous capacity at the Union level to observe, analyse and adapt to fast-evolving digital trends, as well as sharing and mainstreaming best practices;

Amendment

(g) ensure a continuous capacity at the Union level to spearhead digital development, in addition to observe, analyse and adapt to fast-evolving digital trends, as well as sharing and mainstreaming best practices and facilitating cross-fertilisation between the different national initiatives, leading to the development of the digital society thanks to a permanent cooperation among all actors involved at EU level;

Amendment 104

Proposal for a regulation
Article 8 – paragraph 1 – point h

Text proposed by the Commission

(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using distributed ledger

Amendment

(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using inter alia distributed
services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications; ledger services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications based on security and privacy by design, guaranteeing data protection and consumer safety;

Amendment 105

Proposal for a regulation
Article 8 – paragraph 1 a (new)

_text proposed by the Commission_

Amendment

_The actions under specific objective 5 Deployment, best use of digital capacities and Interoperability shall be primarily implemented through direct management by the European Commission. The European Digital Innovation Hubs and competence centres may act as facilitators._

Amendment 106

Proposal for a regulation
Article 9 – paragraph 1

_text proposed by the Commission_

Amendment

1. The financial envelope for the implementation of the Programme for the period 2021–2027 shall be EUR 9 194 000 000 in current prices.

Amendment 107

Proposal for a regulation
Article 9 – paragraph 2 – point a

_text proposed by the Commission_

Amendment

(a) up to EUR 2 698 240 000 for Specific Objective 1, High Performance
(a) up to **EUR 2 404 289 438 in 2018 prices** (EUR 2 698 240 000 in current prices).
Computing prices) for Specific Objective 1, High Performance Computing

Amendment 108
Proposal for a regulation
Article 9 – paragraph 2 – point b

Text proposed by the Commission
(b) up to EUR 2 498 369 000 for Specific Objective 2, Artificial Intelligence

Amendment
(b) up to EUR 2 226 192 703 in 2018 prices (EUR 2 498 369 000 in current prices) for Specific Objective 2, Artificial Intelligence

Amendment 109
Proposal for a regulation
Article 9 – paragraph 2 – point c

Text proposed by the Commission
(c) up to EUR 1 998 696 000 for Specific Objective 3, Cybersecurity and Trust

Amendment
(c) up to EUR 1 780 954 875 in 2018 prices (EUR 1 998 696 000 in current prices) for Specific Objective 3, Cybersecurity and Trust

Amendment 110
Proposal for a regulation
Article 9 – paragraph 2 – point d

Text proposed by the Commission
(d) up to EUR 699 543 000 for Specific Objective 4, Advanced Digital skills

Amendment
(d) up to EUR 623 333 672 in 2018 prices (EUR 699 543 000 in current prices) for Specific Objective 4, Advanced Digital skills

Amendment 111
Proposal for a regulation
Article 9 – paragraph 2 – point e
Text proposed by the Commission

(e) up to EUR 1,299,152,000 for Specific Objective 5, Deployment, best use of digital capacities and Interoperability

Amendment

Proposal for a regulation
Article 9 – paragraph 5

Text proposed by the Commission

5. Resources allocated to Member States under shared management may, at their request, be transferred to the Programme. The Commission shall implement those resources directly in accordance with point (a) of Article 62(1) of the Financial Regulation or indirectly in accordance with point (c) of that Article. Where possible those resources shall be used for the benefit of the Member State concerned.

Amendment

5. Resources allocated to Member States under shared management may, at their request, be transferred to the Programme. The Commission shall implement those resources directly in accordance with point (a) of Article 62(1) of the Financial Regulation or indirectly in accordance with point (c) of that Article. Where possible those resources shall be used to the maximum extent possible for the benefit of the Member State concerned.

Amendment

Proposal for a regulation
Article 10 – paragraph 1 – introductory part

‘The programme shall be open to:’ deleted

Amendment

Proposal for a regulation
Article 10 – paragraph 1 – point 1

1. Members of the European Free Trade Association, which are members of

1. The programme shall be open to Members of the European Free Trade
the European Economic Area, in accordance with the conditions laid down in the European Economic Area agreement;

Association, which are members of the European Economic Area, in accordance with the conditions laid down in the European Economic Area agreement;

Amendment 115

Proposal for a regulation
Article 10 – paragraph 1 – point 2

Text proposed by the Commission

2. **Acceding countries, candidate countries and potential candidates**, in accordance with the **general principles and general terms and conditions for their participation in Union programmes established in the respective framework agreements and Association Council Decisions, or similar agreements, and in accordance with the specific conditions laid down in agreements between the Union and them;**

Amendment

2. **Full or partial association to the programme of third countries that are not referred to in paragraph 1 shall be based on a case by case assessment of the Specific objectives, in accordance with the conditions laid down in a specific agreement covering the participation of the third country to any Union programme, provided that this specific agreement fully respects the following criteria:**

- the participation of the third country is in the interest of the Union;
- the participation contributes to achieving the objectives lay down in article 3,
- the participation does not raise any security concerns and fully respects the relevant security requirements lay down in article 12,
- the agreement ensures a fair balance as regards the contributions and benefits of the third country participating in the Union programmes;
- the agreement lays down the conditions of participation in the programmes, including the calculation of financial contributions to individual programmes and their administrative costs. These contributions shall constitute assigned revenues in accordance with Article [21(5)] of [the new Financial Regulation];
- the agreement does not confer to the third country a decisional power on the programme;
- the agreement guarantees the rights of the Union to ensure sound financial management and to protect its financial interests.

Amendment 116

Proposal for a regulation
Article 10 – paragraph 1 – point 2 a (new)

Text proposed by the Commission

Amendment

2 a. When preparing the work programmes, the European Commission or other relevant implementing bodies, shall assess on a case-by-case basis whether the conditions laid down in the agreement referred to in paragraph 2 are met for the actions included in the work programmes.

Amendment 117

Proposal for a regulation
Article 10 – paragraph 1 – point 3

Text proposed by the Commission

Amendment

3. Countries covered by the European Neighbourhood Policy, in accordance with the general principles and general terms and conditions for the participation of those countries in Union programmes established in the respective framework agreements and Association Council Decisions, or similar agreements, and in accordance with the specific conditions laid down in agreements between the Union and those countries;

Amendment 118
Proposal for a regulation  
Article 10 – paragraph 1 – point 4

Text proposed by the Commission

4. Third countries in accordance with the conditions laid down in a specific agreement covering the participation of the third country to any Union programme, provided that the agreement ensures a fair balance as regards the contributions and benefits of the third country participating in the Union programmes; lays down the conditions of participation in the programmes, including the calculation of financial contributions to individual programmes and their administrative costs. These contributions shall constitute assigned revenues in accordance with Article [21(5)] of [the new Financial Regulation]; does not confer to the third country a decisional power on the programme; guarantees the rights of the Union to ensure sound financial management and to protect its financial interests.

Amendment

119

Proposal for a regulation  
Article 11 – paragraph 2

Text proposed by the Commission

2. The cooperation with third countries and organisations mentioned in paragraph 1 under Specific Objective 3. Cybersecurity and Trust shall be subject to Article [12].

Amendment

2. The cooperation with third countries and organisations mentioned in paragraph 1 under Specific Objectives 1, High Performance Computing, 2 Artificial intelligence and 3. Cybersecurity and Trust shall be subject to Article [12].
Amendment 120

Proposal for a regulation
Article 12 – paragraph 5

*Text proposed by the Commission*

5. The work programme may also provide that legal entities established in associated countries and legal entities established in the EU but controlled from third countries are not eligible for participation in all or some actions under Specific Objective 3 for security reasons. In such cases calls for proposals and calls for tenders shall be restricted to entities established or deemed to be established in Member States and controlled by Member States and/or nationals of Member States.

*Amendment*

5. The work programme may also provide that legal entities established in associated countries and legal entities established in the EU but controlled from third countries are not eligible for participation in all or some actions under Specific Objective 1, 2 and 3 for strategic and security reasons. In such cases calls for proposals and calls for tenders shall be restricted to entities established or deemed to be established in Member States and controlled by Member States and/or nationals of Member States.

Amendment 121

Proposal for a regulation
Article 12 – paragraph 5 a (new)

*Text proposed by the Commission*

5 a. Actions including the transfer of technology outside the Union shall not be permitted. With a view to ensuring long term strategic security objectives, an opportunity evaluation shall be carried out in respect of the participation of entities which have their main establishment outside the Union.

*Amendment*

5 a. Where appropriate the Commission or the funding body may carry out security checks, actions which

Amendment 122

Proposal for a regulation
Article 12 – paragraph 5 b (new)

*Text proposed by the Commission*

5 b. Where appropriate the Commission or the funding body may carry out security checks, actions which
do not comply with security rules may be excluded or terminated at any time.

Amendment 123

Proposal for a regulation
Article 13 – paragraph 1

*Text proposed by the Commission*

1. The Programme is designed to be implemented enabling synergies, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating way, or through the combination of funds including for the joint funding of actions.

*Amendment*

1. The Programme is designed to be implemented enabling synergies, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating way, or through the combination of funds including for the joint funding of actions. **The Commission shall ensure that when leveraging the complementary character of the programme with other European funding programmes, in particular ESIF, the European Regional Development Fund (ERDF), Horizon Europe and Connecting Europe Facility (CEF-2), investEU, Erasmus, European Agricultural Fund for Rural Development (EAFRD) the achievement of Specific objectives 1 to 5 are not hampered.**

**The Commission shall look into ways of improving the overall efficiency of programmes offering resources in the field of digitalisation.**

Amendment 124

Proposal for a regulation
Article 13 – paragraph 2

*Text proposed by the Commission*

2. Appropriate mechanisms of coordination between relevant authorities and appropriate monitoring tools shall be

*Amendment*

2. Appropriate mechanisms of coordination between relevant authorities and between authorities and the
established to systematically ensure synergies between the Programme and any relevant EU funding instruments. The arrangements shall contribute to avoiding duplications and maximising impact of expenditure.

**European Commission** and appropriate monitoring tools shall be established to systematically ensure synergies between the Programme and any relevant EU funding instruments. The arrangements shall contribute to avoiding duplications and maximising impact of expenditure.

**Amendment 125**

**Proposal for a regulation**

**Article 14 – paragraph 2**

*Text proposed by the Commission*

2. The Programme may provide funding in any of the forms laid down in the Financial Regulation, including notably procurement as a primary form as well as grants and prizes. *It* may also provide financing in the form of financial instruments within blending operations.

*Amendment*

2. The Programme may provide funding in any of the forms laid down in the Financial Regulation, including notably procurement by the Commission or funding body, by grant beneficiaries individually or jointly as a primary form of the action as well as grants and prizes. Procurements may authorise the award of multiple contracts within the same procedure and may provide for place of performance conditions in line with applicable international procurement agreements. The Programme may also provide financing in the form of financial instruments within blending operations.

*Justification*

The amendment aims at allowing the use of procurement in the most effective way by clarifying the provision on how the EC or EU funding bodies themselves can be involved as procurers in DEP funded public procurements. Also one procurement can award contracts to multiple vendors or multiple sourcing ensuring better value for money and assuring continuity of supply and service especially for digital technologies.

**Amendment 126**

**Proposal for a regulation**

**Article 15 – paragraph 1**

*Text proposed by the Commission*

The Programme may be implemented

*Amendment*

The Programme may be implemented
through European Partnerships. This may include in particular contributions to existing or new public-private partnerships in the form of joint undertakings established under Article 187 TFEU. For these contributions, provisions relating to European Partnerships under [Horizon Europe Regulation, ref to be added] apply.

Amendment 127

Proposal for a regulation
Article 15 – paragraph 1 a (new)

Text proposed by the Commission

European Partnerships shall:

(a) Be established in cases where they will more effectively achieve objectives of Digital Europe Programme than the Union alone;

(b) Adhere to the principles of Union added value, transparency, openness, impact, leverage effect, long-term financial commitment of all the involved parties, flexibility, coherence and complementarity with Union, local, regional national and international initiatives;

(c) Be time limited and include conditions for phasing-out the Programme funding.

Amendment 128

Proposal for a regulation
Article 15 – paragraph 1 b (new)

Text proposed by the Commission

Provisions and criteria for their selection, implementation, monitoring, evaluation and phasing-out are set out in (Reference
to be added).

Amendment 129
Proposal for a regulation
Article 16 – title

Text proposed by the Commission

Digital Innovation Hubs

Amendment

European Digital Innovation Hubs

Amendment 130
Proposal for a regulation
Article 16 – paragraph 1

1. During the first year of the implementation of the Programme, an initial network of Digital Innovation Hubs shall be established.

Text proposed by the Commission

1. During the first year of the implementation of the Programme, an initial network of European Digital Innovation Hubs shall be established on existing infrastructure and shall be at least one European Digital Innovation Hub per Member State.

Amendment 131
Proposal for a regulation
Article 16 – paragraph 2 – introductory part

2. For the purpose of the establishment of the network mentioned in paragraph 1, each Member State shall designate candidate entities through an open and competitive process, on the basis of the following criteria:

Text proposed by the Commission

2. For the purpose of the establishment of the network mentioned in paragraph 1, each Member State shall designate candidate entities through an open, transparent, inclusive and competitive process, on the basis of the following criteria:

Amendment 132
Proposal for a regulation
Article 16 – paragraph 2 – point a

*Text proposed by the Commission*

(a) appropriate competences related to the functions of the Digital Innovation Hubs;

*Amendment*

(a) appropriate competences related to the functions of the European Digital Innovation Hubs;

Amendment 133

Proposal for a regulation
Article 16 – paragraph 2 – point b

*Text proposed by the Commission*

(b) appropriate management capacity, staff and infrastructure;

*Amendment*

(b) appropriate management capacity, staff and infrastructure and skillset;

Amendment 134

Proposal for a regulation
Article 16 – paragraph 2 – point d a (new)

*Text proposed by the Commission*

(d a) proven cooperation with the private sector to ensure market relevance of the interventions under the Specific Objectives 1 to 5;

*Amendment*

Amendment 135

Proposal for a regulation
Article 16 – paragraph 2 – point d b (new)

*Text proposed by the Commission*

(d b) links with existing ICT Hubs created under Horizon 2020, the EUinvest Hub and the European Entreprise network;
Amendment 136

Proposal for a regulation
Article 16 – paragraph 2 a (new)

Text proposed by the Commission

2 a. The detailed conditions to be fulfilled in order to be designated as 'European Digital Innovation Hub' and the tasks to be executed, shall be harmonised and published in due time in order to allow for proper preparation and implementation of the actions.

Amendment 137

Proposal for a regulation
Article 16 – paragraph 3 – introductory part

Text proposed by the Commission

3. The Commission shall adopt a decision on the selection of entities forming the initial network. These entities shall be selected by the Commission from candidate entities designated by Member States on the basis of the criteria mentioned in paragraph 2 and the following additional criteria:

Amendment

3. The Commission shall adopt a decision on the selection of entities forming the initial network. These entities shall be selected and clearly identified by the Commission from candidate entities designated by Member States on the basis of the criteria mentioned in paragraph 2 and the following additional criteria:

Amendment 138

Proposal for a regulation
Article 16 – paragraph 3 – point b

Text proposed by the Commission

(b) the need to ensure by the initial network a coverage of the needs of industry and areas of public interest and a comprehensive and balanced geographical coverage.

Amendment

(b) the need to ensure by the initial network a coverage of the needs of industry and areas of public interest and a comprehensive and balanced geographical coverage, improving convergence and contribute to fill the gap between the cohesion countries and the other Member States and to decrease the digital divide in
4. Additional Digital Innovation Hubs shall be selected on the basis of an open and competitive process, in such a way to ensure the widest geographical coverage across Europe. The number of entities of the network shall be proportional to the population of a given Member States and there shall be at least one Digital Innovation Hub per Member State. To address the specific constraints faced by the EU outermost regions, specific entities may be nominated to cover their needs.

Amendment 140

Proposal for a regulation
Article 16 – paragraph 5

5. The Digital Innovation Hubs may receive funding in the form of grants.

Amendment

5. The European Digital Innovation Hubs shall be clearly identified by means of specific indications and receive funding in the form of grants.

Amendment 141

Proposal for a regulation
Article 16 – paragraph 6 – introductory part

6. The Digital Innovation Hubs which receive funding shall be involved in the implementation of the Programme to:

Amendment

6. The European Digital Innovation Hubs which receive funding shall be involved in the implementation of the Programme to:
Amendment 142

Proposal for a regulation
Article 16 – paragraph 6 – point a

*Text proposed by the Commission*

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

*Amendment*

(a) provide digital transformation services *and technological expertise* including testing and experimentation facilities - targeted towards *start-ups*, SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

Amendment 143

Proposal for a regulation
Article 16 – paragraph 6 – point a a (new)

*Text proposed by the Commission*

(a a) support companies, especially SMEs and start-ups, organisations and public administrations to become more competitive and improve their business models through use of new technologies covered by the Programme

*Amendment*

(a a) transfer expertise and know-how between regions, in particular by networking SMEs, start-ups and midcaps established in one region with European Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment 144

Proposal for a regulation
Article 16 – paragraph 6 – point b

*Text proposed by the Commission*

(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

*Amendment*

(b) transfer expertise and know-how between regions, in particular by networking SMEs, *start-ups* and midcaps established in one region with *European Digital Innovation Hubs* established in other regions which are best suited to provide relevant services; *encourage exchanges of skills, joint initiatives and*
good practices;

Amendment 145

Proposal for a regulation
Article 16 – paragraph 6 – point c

Text proposed by the Commission

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs, and start-ups and midcaps. Individual European Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment 146

Proposal for a regulation
Article 16 – paragraph 6 a (new)

Text proposed by the Commission

Amendment

6 a. The European Digital Innovation Hubs may also cooperate with the European Institute of Innovation and Technology in particular the EIT Digital as well as the Digital Innovation Hubs set up under Horizon 2020.

Amendment 147

Proposal for a regulation
Article 16 – paragraph 6 b (new)

Text proposed by the Commission

Amendment

6 b. The European Digital Innovation Hubs may carry out the activities of the Digital Innovation Hubs set up under the
Amendment 148

Proposal for a regulation
Article 17 – paragraph 1

Text proposed by the Commission

1. Only actions contributing to the achievement of the objectives referred to in Article [3] and Articles [4]-[8] shall be eligible for funding.

Amendment

1. Only actions contributing to the achievement of the objectives referred to in Article [3] and Articles [4]-[8] shall be eligible for funding in accordance with the general objectives set out in Annex I.

Amendment 149

Proposal for a regulation
Article 18 – paragraph 2 – point a – point ii

Text proposed by the Commission

(ii) a third countries associated with the Programme;

Amendment

(ii) a third countries associated with the Programme in accordance with articles 10 and 12;

Amendment 150

Proposal for a regulation
Article 18 – paragraph 3

Text proposed by the Commission

3. Legal entities established in a third country which is not associated to the Programme are exceptionally eligible to participate in specific actions where this is necessary for the achievement of the objectives of the Programme.

Amendment

3. Legal entities established in a third country which is not associated to the Programme are exceptionally eligible to participate in specific actions where this is necessary for the achievement of the objectives of the Programme, and when it does not imply additional security risks for the Union or put in question the Union's strategic autonomy.
Amendment 151

Proposal for a regulation
Article 18 – paragraph 4

Text proposed by the Commission

4. Natural persons shall not be eligible, except for grants awarded under Specific Objective 4. Advanced digital skills.

Amendment

4. Natural persons may be eligible for grants awarded under Specific Objective 4. Advanced digital skills. Third country nationals may be eligible provided that they reside within the Union.

Amendment 152

Proposal for a regulation
Article 19 – paragraph 1

Text proposed by the Commission

Grants under the Programme shall be awarded and managed in accordance with Title VIII of the Financial Regulation.

Amendment

Grants under the Programme shall be awarded and managed in accordance with Title VIII of the Financial Regulation and may cover up to 100% of the eligible costs on duly justified reasons, without prejudice of the co-financing principle; and in accordance with the specification under each objective.

Amendment 153

Proposal for a regulation
Article 20 – paragraph 1 – introductory part

Text proposed by the Commission

1. The award criteria shall be defined in the work programmes and in the calls for proposals, taking into account the minimum the following elements:

Amendment

1. The award criteria shall be defined in the work programmes and in the calls for proposals, taking into account at least the following elements:

Amendment 154

Proposal for a regulation
Article 20 – paragraph 1 – point e
(e) where applicable, the economic, social, climate and environmental impact, and accessibility;

(1) where applicable, the economic, climate, environmental and social impact, in particular promoting accessibility and equal educational and professional opportunities;

Amendment 155

Proposal for a regulation
Article 20 – paragraph 1 – point g

(g) where applicable, a balanced geographical distribution across the Union, including the outermost regions;

(g) where applicable, a balanced geographical distribution across the Union, including the outermost regions including overseas countries and territories;

Amendment 156

Proposal for a regulation
Article 20 – paragraph 1 – point h a (new)

(h a) where applicable, the freedom for re-use and adaptation of the projects’ results;

Amendment 157

Proposal for a regulation
Article 20 – paragraph 1 – point h b (new)

(h b) where applicable, the public interest;

Amendment 158
Proposal for a regulation
Article 20 – paragraph 1 – point h c (new)

Text proposed by the Commission

(h c) where applicable, a reduction of
digital divide between regions, citizens or
business.

Amendment 159

Proposal for a regulation
Article 21 – paragraph 1

Text proposed by the Commission
Blending operations decided under this
Programme shall be implemented in
accordance with the [InvestEU regulation]
and Title X of the Financial Regulation.

Amendment

Blending operations decided under this
Programme shall be implemented in
accordance with the [InvestEU regulation]
and Title X of the Financial Regulation.
The amount of expenditure from this
programme to be blended with a financial
instrument shall be non-refundable.

Amendment 160

Proposal for a regulation
Article 22 – paragraph 2 a (new)

Text proposed by the Commission

2 a. Where an action has already been
awarded or has received contributions
from another Union programme or
support from an EU fund, that
contribution or support shall be listed in
the application for a contribution under
the Programme.

Amendment 161

Proposal for a regulation
Article 23 – paragraph 3
3. The first multiannual work programme shall focus on the activities set out in the Annex and ensure that the actions thereby supported do not crowd out private financing. Subsequent work programmes may include activities not set out in the Annex provided that they are consistent with the objectives of this Regulation, as set out in Articles [4 – 8].

Amendment 162
Proposal for a regulation
Article 23 – paragraph 3 a (new)

Text proposed by the Commission
3 a. The Commission shall be empowered to adopt delegated acts in accordance with Article 27 to amend Annex I to review or complement the activities set out therein in a manner consistent with the objectives of this Regulation as set out in articles 4 - 8.

Amendment 163
Proposal for a regulation
Article 24 – paragraph 1

Text proposed by the Commission
1. Measurable indicators to monitor the implementation and progress of the Programme in achieving the general and specific objectives set out in Article 3 are set in the Annex II.

Amendment 164
Proposal for a regulation
Article 24 – paragraph 1 a (new)
1 a. The Commission shall define a methodology to provide for measurable indicators for an accurate assessment of the progress towards achieving the general objectives set out in Article 3(1). On the basis of this methodology the Commission shall complement Annex III at the latest by 1st January 2021.

Amendment 165

Proposal for a regulation
Article 24 – paragraph 2

2. To ensure effective assessment of progress of the Programme towards the achievement of its objectives, the Commission is empowered to adopt delegated acts in accordance with Article 27 to amend Annex II to review or complement the indicators where considered necessary and to supplement this Regulation with provisions on the establishment of a monitoring and evaluation framework.

Amendment 166

Proposal for a regulation
Article 24 – paragraph 3

3. The performance reporting system shall ensure that data for monitoring programme implementation and results are collected efficiently, effectively, and in a timely manner. To that end, proportionate reporting requirements shall be imposed on recipients of Union funds and Member States.
Amendment 167

Proposal for a regulation
Article 24 – paragraph 4

Text proposed by the Commission

4. Official EU statistics such as regular ICT statistical surveys shall be used to their maximum. National Statistical Institutes shall be consulted on, and involved together with Eurostat, in the initial design and subsequent development of statistical indicators used for monitoring the implementation of the programme and the progress made with regard to digital transformation.

Amendment

4. Official EU statistics such as regular ICT statistical surveys shall be used in the most efficient manner possible, as well as collection of DESI datasets at NUTS-2 to help address the lack of Digital Europe related regional data. National Statistical Institutes shall be consulted on, and involved together with Eurostat, in the initial design and subsequent development of statistical indicators used for monitoring the implementation of the programme and the progress made with regard to digital transformation.

Amendment 168

Proposal for a regulation
Article 25 – title

Evaluation

Programme Evaluation

Amendment 169

Proposal for a regulation
Article 25 – paragraph 1

Text proposed by the Commission

1. Evaluations shall be carried out in a timely manner to feed into the decision-making process.

Amendment

1. The Commission shall ensure regular monitoring and external evaluation of the Programme, based notably on the performance reporting system as referred to in Article 24 paragraph 3. The evaluations shall also
provide for a qualitative assessment of the progress towards achieving the general objectives set out in Article 3(1).

Amendment 170

Proposal for a regulation
Article 25 – paragraph 2

Text proposed by the Commission

2. The interim evaluation of the Programme shall be performed once there is sufficient information available about the implementation of the Programme, but no later than four years after the start of the implementation of the Programme.

Amendment

2. In addition to regularly monitoring the Programme, the Commission shall establish an interim evaluation report and shall submit it to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions no later than 31 December 2024. The interim evaluation shall present the findings necessary to make a decision about a follow-up to the Programme beyond 2027 and its objectives.

The interim evaluation shall be submitted to the European Parliament.

Amendment 171

Proposal for a regulation
Article 25 – paragraph 3

Text proposed by the Commission

3. At the end of the implementation of the Programme, but no later than four years after the end of the period specified in Article [1], a final evaluation of the Programme shall be carried out by the Commission.

Amendment

3. On the basis of a final external and independent evaluation, the Commission shall establish a final evaluation report of the Programme, which assesses its longer-term impacts and its sustainability.

Amendment 172

Proposal for a regulation
Article 25 – paragraph 4 a (new)
Text proposed by the Commission

Amendment

4a. The Commission shall submit the final evaluation report referred to in paragraph 3 to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions no later than 31 December 2030.

Amendment 173

Proposal for a regulation
Article 25 – paragraph 5

Text proposed by the Commission

Amendment

5. The Commission shall communicate the conclusions of the evaluations accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

deleted

Amendment 174

Proposal for a regulation
Article 26 – paragraph 4

Text proposed by the Commission

Amendment

4. As part of the control system, the audit strategy may be based on the financial audit of a representative sample of expenditure. That representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

4. As part of the control system, the audit strategy shall be based on the financial audit of at least a representative sample of expenditure. That representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

Amendment 175

Proposal for a regulation
Article 27 – paragraph 2
2. The power to adopt delegated acts referred to in Article 24 shall be conferred on the Commission until 31 December 2028.

2. The power to adopt delegated acts referred to in Articles 23 and 24 shall be conferred on the Commission until 31 December 2028.

Amendment 176

Proposal for a regulation
Article 27 – paragraph 3

3. The delegation of power referred to in Article 24 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

3. The delegation of power referred to in Articles 23 and 24 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

Amendment 177

Proposal for a regulation
Article 27 – paragraph 6

6. A delegated act adopted pursuant to article 24 shall enter into force if no objection has been expressed either by the European Parliament or by the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the

6. A delegated act adopted pursuant to Articles 23 and 24 shall enter into force if no objection has been expressed either by the European Parliament or by the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the
Amendment 178

Proposal for a regulation
Article 29 – paragraph 1

Text proposed by the Commission
1. The recipients of Union funding shall acknowledge the origin and ensure the visibility of the Union funding (in particular when promoting the actions and their results) by providing coherent, effective and proportionate targeted information to multiple audiences, including the media and the public.

Amendment
1. The recipients of Union funding shall acknowledge the origin and ensure the visibility of the Union funding (in particular when promoting the actions and their results) by providing coherent, truthful, effective and proportionate targeted information to multiple audiences, including the media and the public.

Amendment 179

Proposal for a regulation
Article 29 – paragraph 2

Text proposed by the Commission
2. The Commission shall implement information and communication actions relating to the Programme, and its actions and results. Financial resources allocated to the Programme shall also contribute to the corporate communication of the political priorities of the Union, as far as they are related to the objectives referred to in Article [3].

Amendment
2. The Commission shall implement information and communication actions relating to the Programme, and its actions and results. It shall also ensure integrated information and access to potential applicants to Union funding in the digital sector. Financial resources allocated to the Programme shall also contribute to the corporate communication of the political priorities of the Union, as far as they are related to the objectives referred to in Article [3].

Amendment 180

Proposal for a regulation
Annex 1 – part 1 – paragraph 2 – point 1

Text proposed by the Commission
1. A joint procurement framework for

Amendment
1. A joint procurement framework for
an integrated network of world-class HPC including exascale supercomputing and data infrastructure. It will be accessible on a non-economic basis to public and private users and for publicly funded research purposes.

**Amendment 181**

**Proposal for a regulation**

**Annex 1 – part 1 – paragraph 2 – point 6**

**Text proposed by the Commission**

6. The deployment of ready to use/operational technology: supercomputing as a service resulting from R&I to build an integrated European HPC ecosystem, covering all scientific and industrial value chain segments (hardware, software, applications, services, interconnections and advanced digital skills).

**Amendment**

6. The deployment of ready to use/operational technology: supercomputing as a service resulting from R&I, in particular new technologies that have previously benefitted or that currently benefit from Union funding, to build an integrated European HPC ecosystem, covering all scientific and industrial value chain segments (hardware, software, applications, services, interconnections and advanced digital skills).

**Amendment 182**

**Proposal for a regulation**

**Annex 1 – part 2 – paragraph 1**

**Text proposed by the Commission**

The Programme shall build up and strengthen core Artificial Intelligence capacities in Europe including data resources and repositories of algorithms and making them accessible by all businesses and public administrations as well as reinforcement and networking of existing AI testing and experimentation facilities in Member States.

**Amendment**

The Programme shall build up and strengthen core capacities of Artificial Intelligence and distributed ledger technologies in Europe including data resources and repositories of algorithms and making them accessible by all businesses and public administrations as well as reinforcement and networking of existing AI testing and experimentation facilities in Member States.
Amendment 183

Proposal for a regulation
Annex 1 – part 4 – paragraph 1

Text proposed by the Commission

The Programme shall support easy access to advanced digital skills, notably in HPC, AI, distributed ledgers (e.g. blockchain) and cybersecurity for the current and future labour force by offering students, recent graduates, and existing workers, wherever they are situated, with the means to acquire and develop these skills.

Amendment

The Programme shall support easy access and training opportunities in advanced digital skills, notably in HPC, AI, distributed ledgers (e.g. blockchain) and cybersecurity for the current and future labour force by offering students, recent graduates or citizens of all ages in need of upskilling, jobseekers and existing workers, wherever they are situated, with the means to acquire and develop these skills.

Amendment 184

Proposal for a regulation
Annex 1 – part 4 – paragraph 2 – point 1

Text proposed by the Commission

1. Access to on the job training by taking part in traineeships in competence centres and companies deploying advanced technologies.

Amendment

1. Access to on the job training and blended learning opportunities by taking part in traineeships in competence centres and companies deploying advanced technologies.

Amendment 185

Proposal for a regulation
Annex 1 – part 4 – paragraph 4

Text proposed by the Commission

All interventions will be designed and implemented primarily through the Digital Innovation Hubs, as defined in Article 15.

Amendment

All interventions will be designed and implemented primarily through the Digital Innovation Hubs, as defined in Article 16.
Amendment 186

Proposal for a regulation
Annex 1 – part 5 – subpart I – point 1 – point 1.2

Text proposed by the Commission
1.2. Support the design, piloting, deployment, maintenance and promotion of a coherent eco-system of cross-border digital services infrastructure and facilitate seamless end-to-end, secure, interoperable, multi-lingual, interoperable cross-border or cross-sector solutions and common frameworks within public administration. Methodologies for assessing the impact and benefits shall also be included.

Amendment
1.2. Support the design, piloting, deployment, maintenance, expansion and promotion of a coherent eco-system of cross-border digital services infrastructure and facilitate seamless end-to-end, secure, interoperable, multi-lingual, interoperable cross-border or cross-sector solutions and common frameworks within public administration. Methodologies for assessing the impact and benefits shall also be included.

Amendment 187

Proposal for a regulation
Annex 1 – part 5 – subpart I – point 2 – point 2.1

Text proposed by the Commission
2.1. Ensure that EU citizens can access, share, use, and manage their personal health data securely across borders irrespective of their location or the location of the data. Complete the eHealth Digital Service Infrastructure and extend it by new digital services, support deployment of the European exchange format for electronic health records.

Amendment
2.1. Ensure that EU citizens can access, share, use, and manage their personal health data securely and in a way that guarantees their privacy across borders irrespective of their location or the location of the data. Complete the eHealth Digital Service Infrastructure and extend it by new digital services, support deployment of the European exchange format for electronic health records.

Amendment 188

Proposal for a regulation
Annex 1 – part 5 – subpart I – point 3

Text proposed by the Commission
3. Judiciary: Enable seamless and secure cross-border electronic communication within the judiciary and

Amendment
3. Judiciary: Enable seamless and secure cross-border electronic communication within the judiciary and
between the judiciary and other competent bodies in the area of civil and criminal justice. Improve access to justice and juridical information and procedures to citizens, businesses, legal practitioners and members of the judiciary with semantically interoperable interconnections to national databases and registers as well as facilitating the out-of-court dispute resolution online. Promote the development and implementation of innovative technologies for courts and legal practitioners based on artificial intelligence solutions which are likely to streamline and speed-up procedures (for example “legal tech” applications).

Amendment 189

Proposal for a regulation
Annex 1 – part 5 – subpart I – point 4

Text proposed by the Commission

4. Transport, energy and environment: Deploy decentralised solutions and infrastructures required for large-scale digital applications such as smart cities or smart rural areas in support of transport, energy and environmental policies.

Amendment

4. Transport, energy and environment: Deploy decentralised solutions and infrastructures required for large-scale digital applications such as smart cities, smart rural areas or outermost regions in support of transport, energy and environmental policies.

Amendment 190

Proposal for a regulation
Annex 1 – part 5 – subpart II – title

Text proposed by the Commission

II Initial activities related to the digitization of industry:

Amendment

II Initial activities related to the digitisation of industry:

Amendment 191

Proposal for a regulation
Annex 2 – part 2 – point 2.2

PE625.457v02-00  84/303  RR\1170470EN.docx
Text proposed by the Commission

2.2 Number of companies and organisations using AI

Amendment

2.2 Number of companies and organisations testing and experimenting with AI in co-operation with Digital Innovations Hubs

Amendment 192

Proposal for a regulation
Annex 2 – part 2 – point 2.2 a (new)

Text proposed by the Commission

2.2a Number of concrete AI applications supported by the programme that are being currently commercialised.

Amendment 193

Proposal for a regulation
Annex 2 – part 4 – point 4.1

Text proposed by the Commission

4.1 Number of ICT specialists trained and working

Amendment

4.1 Number of ICT specialists trained and working each year in the Union

Amendment 194

Proposal for a regulation
Annex 2 – part 4 – point 4.2

Text proposed by the Commission

4.2 Number of enterprises having difficulty recruiting ICT specialists

Amendment

4.2 Number of enterprises having difficulty recruiting ICT specialists each year in the Union

Amendment 195

Proposal for a regulation
Annex 2 – part 4 – point 4.2 b (new)
4.2b Number of students, recent graduates and unemployed that have improved their status after training provided in the framework of the programme.

Amendment 196

Proposal for a regulation
Annex 2 – part 5 – point 5.1

Text proposed by the Commission

5.1 Take-up of digital public services

Amendment

5.1 Frequency of take-up of digital public services

Amendment 197

Proposal for a regulation
Annex 2 – part 5 – point 5.2

Text proposed by the Commission

5.2 Enterprises with high digital intensity score

Amendment

5.2 Number of enterprises with high digital intensity score

Amendment 198

Proposal for a regulation
Annex 2 – part 5 – point 5.3

Text proposed by the Commission

5.3 Alignment of the National Interoperability Framework with the European Interoperability Framework

Amendment

5.3 Extent of alignment of the National Interoperability Framework with the European Interoperability Framework

Amendment 199

Proposal for a regulation
Annex 3 – point 1 – point b a (new)
**Amendment 200**

**Proposal for a regulation**  
**Annex 3 – point 1 – point c**

*Text proposed by the Commission*

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

*Amendment*

(ba) Digital Europe Programme shall actively create synergies with Horizon Europe around the sustainability of data originating from research projects;

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**Amendment 201**

**Proposal for a regulation**  
**Annex 3 – point 3 – point c**

*Text proposed by the Commission*

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

*Amendment*

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national, regional and local deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

---

*Text proposed by the Commission*

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

*Amendment*

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

---

*Text proposed by the Commission*

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, distributed ledger technology, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);
EXPLANATORY STATEMENT

The Digital Europe Programme for the period 2021-2027 proposed by the Commission on 6 June 2018 lays down the objectives of the programme, the budget for the 2021 - 2027 period, the forms of European Union funding and the rules for providing such funding.

The Rapporteur endorses the overall objective of the proposed programme to support the digital transformation of the European economy, industry and society. The programme should bring benefits to European businesses and citizens. It shall reinforce Europe's capacities in key digital technology areas through large-scale deployment and widen their diffusion and uptake in both areas of public interest and private sector. However, taking into account the specificity of certain objectives, the Rapporteur believes that on top of the digital transformation, the Programme overall aim is to create capabilities and reinforce strategic autonomy of the EU.

The current state of digitalisation of EU economy, industry and society is not sufficient to answer to the political ambition of the Digital Single Market. There is still an important gap to cover through substantial and better European investment, in order to achieve the common goal and fully benefit from the EU added value. The Rapporteur would like to underline that this proposal is the first pan-European digital programme; it should be seen as a major step for strengthening and improving Europe leading position.

The programme has five specific objectives, and the difference among them is reflected in their specific envelopes. Since a wide variety of activities could be financed through this programme, its implementation could lead to the dilution of the main goal of the programme itself, which is to build capabilities in the EU. The Rapporteur would like to remain very vigilant, and, therefore, proposes that the work programmes will be drafted under the scrutiny of the European Parliament.

This Programme should be a veritable tool to strengthen EU independence, notably in the area of the Specific Objectives 1, 2 and 3 (High Performance Computing, Artificial Intelligence and Cybersecurity and Trust). EU strategic autonomy is essential to ensure concrete freedom of action at global level; it can only be achieved by better cooperation between Member States and undertakings, which must be based in the Member States.

Specific Objective 4 (Advanced Digital Skills) is essential to support the success of the first three Objectives, by ensuring that the current and future labour force will easily acquire advanced digital skills by offering students, graduates, and workers the means to acquire and develop these skills, no matter where they are in the EU.

Specific Objective 5 (Deployment, better use of digital capacities and interoperability) is crucial to expand the best use of digital capacities (notably High Performance Computing, Artificial Intelligence and Cybersecurity) across the economy, including the deployment of interoperable solutions in areas of public interest, and facilitate access to technology and knowhow for all businesses, including SMEs and start-ups, and citizens.
The Rapporteur would therefore like to clarify that the eligible entities should be established in the EU. The cooperation with third countries in the specific context of this programme seems inappropriate.

The Rapporteur also believes that, due to the sensitivity and the ongoing consultations on the Specific Objective 2 (Artificial Intelligence), the selected projects would need to respect ethical requirements, as it is the case in other MFF files such as Horizon Europe and the European Defence Programme.

The European Digital Innovation Hubs are meant to carry out targeted programmes to help European industry, including SMEs and start-ups, and public administrations to equip their personnel with the needed advanced skills to be able access the new opportunities offered by supercomputing, artificial intelligence and cybersecurity. SMEs, start-ups and public administrations will also have the possibility to access to technological expertise and experimentation facilities, but also receiving advice to better assess their business case of digital transformation projects. They are today one of the key elements of the Digitising European Industry strategy. The Rapporteur believes that it is of utmost importance to support the establishment of a European Digital Innovation Hubs network. This network should extend to the widest geographical coverage across Europe but also at national level to meet the concrete needs. The establishment of at least one European Digital Innovation Hub in each region will be a priority.

The overall budget of the programme of EUR 9.1940.0000 should be considered as the minimum amount to steer the Digital Europe Programme towards success. The Rapporteur considers that the amount proposed by the Commission seems potentially limited, taking into account the overall ambition and challenges that cannot be foreseen now, being the Programme a new one and being impossible to assess ex ante the precise needs of each individual objective.

Finally, the Rapporteur is well aware of the Union and the Member States budgetary limits and investments efforts, which is why the implementation of this Programme cannot overlook the commitment to the most efficient management of the funds. Accordingly, a key element will be to realise synergies between the Programme and the other EU funding under the next MFF.

The Rapporteur believes that the funds’ de-compartmenting will make investments more effective and provide better value, notably by amplifying the impact of EU-level digital investments on the ground, while national and regional digital investment will be able to better complement the EU programmes.
ANNEX: LIST OF ENTITIES OR PERSONS
FROM WHOM THE RAPPORTEUR HAS RECEIVED INPUT

The following list is drawn up on a purely voluntary basis under the exclusive responsibility of the rapporteur. The rapporteur has received input from the following entities or persons in the preparation of the report, until the adoption thereof in committee:

<table>
<thead>
<tr>
<th>Entity and/or person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Science, Technology and Higher Education of Portugal</td>
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<tr>
<td>Austrian Federal Ministry for Digital and Economic Affairs (EU Presidency)</td>
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<td>Mission of Norway to the EU</td>
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<td>EARTO</td>
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<td>IAPP</td>
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<td>Aalto University</td>
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<td>Committee of Regions</td>
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<td>Wirtschaftskammer Österreich</td>
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<td>Bitkom</td>
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<td>Amazon</td>
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<td>DIGITALEUROPE</td>
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<tr>
<td>European Digital Rights (EDRi)</td>
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<td>European Cyber Security Organisation (ECSO)</td>
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<td>TNO</td>
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<tr>
<td>UEAPME – the European craft and SME employers’ organisation</td>
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<td>European Digital SME Alliance</td>
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<td>European Digital Rights (EDRi)</td>
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OPINION OF THE COMMITTEE ON CULTURE AND EDUCATION

for the Committee on Industry, Research and Energy


Rapporteur for opinion (*): Bogdan Brunon Wenta

(*) Associated committee – Rule 54 of the Rules of Procedure

SHORT JUSTIFICATION

The Rapporteur welcomes the Commission's proposal to establish a Digital Europe Programme. As part of the next long-term EU budget (MFF 2021-2027), and with a budget of €9.2 billion, the Programme aims to shape Europe's digital transformation to the benefit of citizens and businesses.

The Programme focuses on five specific objectives: (1) high-performance computing, (2) artificial intelligence, (3) cybersecurity, (4) advanced digital skills and (5) deployment, best use of digital capacity and interoperability.

The main points of the draft opinion are:

(i) Budget (Article 9)

Whilst the Rapporteur considers it essential to ensure the synergies between the Digital Europe Programme and all other MFF programmes, he would nevertheless like to stress the necessity to secure the budget allocated to Digital Europe, considering its ambitious objectives. In that regard, the Rapporteur therefore suggests some specific modifications to the budget.

In particular, the Rapporteur suggests a slight increase of the budget allocated to the specific objective 4, “Advanced digital skills”, with a proposal for a budget of around €830 million (9% of the overall budget) instead of the €700 million (7.6%) originally foreseen by the Commission.
(ii) Advanced digital skills (Article 7 and annexes)

Considering the crucial importance of ensuring that both the current and future workforce will have the opportunity to acquire advanced digital skills through long-and short-term training courses and on-the-job traineeships, the Rapporteur suggests several amendments in order to reinforce this specific objective and further clarify the proposed provisions.

(iii) Deployment, best use of digital capacity and interoperability (Article 8 and annexes)

This objective is of particular relevance to cultural and creative sectors. The Rapporteur suggests several amendments to strengthen support to cultural and creative industries, in particular in the audiovisual sector, in their ongoing digital transformation and stresses the need to guarantee them access to the most advanced and performing digital technologies from AI to advanced computing.

This objective is also relevant to cultural heritage. The Rapporteur would like to emphasise the important role Digital Europe will play in supporting Europeana.

(iv) Evaluation (Article 25)

The Rapporteur suggests several important changes concerning the evaluation of the Programme because he considers that the Commission's proposal is not sufficiently clear in that regard.

(v) Work programmes (Article 23)

The Rapporteur suggests that the work programmes are adopted by the Commission through delegated acts and not through implemented acts as suggested by the Commission in its proposal.

Overall the Rapporteur welcomes the effort that the Commission has put into this proposal. Nevertheless, the Rapporteur considers it to be far too general, vague, and to be lacking in crucial detail and in legal clarity. In that regard, considering the difficulties in understanding how the Programme will concretely work as well as how the synergies between programmes will be implemented, the Rapporteur suggests a series of amendments, focusing particularly on providing greater legal clarity and certainty to the Programme.

**AMENDMENTS**

The Committee on Culture and Education calls on the Committee on Industry, Research and Energy, as the committee responsible, to take into account the following amendments:

**Amendment 1**

RR\1170470EN.docx 93/303 PE625.457v02-00
Recital 5

Text proposed by the Commission

(5) Pursuant to paragraph 22 and 23 of the Inter-institutional agreement for Better Law-Making of 13 April 2016\(^5\), there is a need to evaluate this Programme on the basis of information collected through specific monitoring requirements, while avoiding overregulation and administrative burdens, in particular on Member States. These requirements, where appropriate, can include measurable indicators, as a basis for evaluating the effects of the Programme on the ground.


Amendment

Amendment to paragraph 22 and 23 of the Inter-institutional agreement for Better Law-Making of 13 April 2016\(^5\), there is a need to evaluate this Programme on the basis of information collected through specific monitoring requirements, while avoiding overregulation and administrative burdens, in particular on Member States. These requirements, where appropriate, can include measurable *quantitative and qualitative* indicators, as a basis for evaluating the effects of the Programme on the ground.


Recital 6

Text proposed by the Commission

(6) The Tallinn Digital Summit\(^5\) of September 2017 and the Conclusions of the European Council\(^5\) of 19 October 2017 indicated the need for Europe to invest in digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires collectively tackling some of the challenges posed by the digital economy.

\(^5\) The Tallinn Digital Summit of September 2017 and the Conclusions of the European Council of 19 October 2017 indicated the need for Europe to invest in digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, *media freedom and democratic dialogue*, whilst enhancing not only cultural and creative industries but also cultural and linguistic diversity.
transformation and reviewing policies affected by the digital transformation.

Seizing these opportunities requires collectively tackling some of the challenges posed by the digital transformation and digital monopolies while putting focus on investment in human capital and citizens needs in terms of upskilling and reskilling in order for them to fully benefit from the Digital Single Market.

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Amendment 3

Proposal for a regulation
Recital 7

Text proposed by the Commission

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as artificial intelligence and distributed ledgers technologies (e.g. blockchain), while at the same time ensuring a high level of data protection, digital rights and ethical standards. The European Council invited the Commission to put forward a European approach to artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry.

Amendment

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as digital divide, artificial intelligence and distributed ledgers technologies (e.g. blockchain), while at the same time ensuring a high level of data protection, rights and ethical standards. The European Council invited the Commission to put forward a European approach to artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry.

Amendment 4
Proposal for a regulation
Recital 8

Text proposed by the Commission

(8) The Commission's Communication on 'A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020'\(^{57}\) outlines among the options for the future financial framework a programme for Europe's digital transformations to deliver 'strong progress towards smart growth in areas such as high quality data infrastructure, connectivity and cybersecurity'. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It would reinforce the competitive position of industry and businesses in Europe across the digitised economy and would have a significant impact on filling the skills gap across the Union.

Amendment

(8) The Commission's Communication on 'A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020'\(^{57}\) outlines among the options for the future financial framework a programme for Europe's digital transformations to deliver 'strong progress towards smart growth in areas such as high quality data infrastructure, connectivity and cybersecurity'. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It should reinforce the competitive position of industry and businesses in Europe across the digitised economy and it should ensure that European citizens have the necessary skills, competences and knowledge to face the digital transformation of our societies and economies.

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Amendment 5

Proposal for a regulation
Recital 10

Text proposed by the Commission

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital

Amendment

(10) The general objective of the Programme should be to support the digital transformation of industry, in society and to foster better exploitation of the potential of policies of innovation and research policies, as well as the full use of R&D results, technological development, European and international standards in industry, in cultural, educational, academic/scientific, audiovisual and media institutions and in public administration, for the benefit of citizens
skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment 6

Proposal for a regulation
Recital 10 a (new)

Text proposed by the Commission

(10a) In line with the objectives of, and action plan for, the European Year of Cultural Heritage (which has highlighted the great potential of the cultural, artistic, creative and audiovisual sectors to contribute to European scientific and social innovation), the programme should promote partnerships and research projects between research institutes, universities and cultural, artistic, creative and audiovisual bodies (in particular, museums, academies, conservatories, theatres and cinemas). It should also support the development of digital technologies that facilitate and broaden the scope for conservation of, and access to, cultural, artistic, creative and audiovisual content and services (e.g. augmented and virtual reality and human-machine interfaces), in synergy with the Creative Europe and Horizon Europe programmes.

Amendment 7

Proposal for a regulation
Recital 11
(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe. A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market.

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59 As indicated in the Communication on Digitising European Industry (COM(2016) 180 final)

Amendment

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, SMEs, local start-ups by public organisations and academia taking into account the specific sectorial needs at regional level. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe while taking into consideration remote areas and less developed regions. A first set of Digital Innovation Hubs will be selected based on Member States’ proposals taking into account criteria such as geographical situation, demographic trends, regional skills forecasts needs and then the network will be enlarged through an open, transparent and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market.

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59 As indicated in the Communication on Digitising European Industry (COM(2016) 180 final)
Recital 14

Text proposed by the Commission

(14) The Programme's actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

Amendment

(14) The Programme's actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value. It should also see to the unconditional respect of rights of content providers, consumers and users of digital technology, ensuring full respect of European values in the development of a digital Europe.

Amendment 9

Proposal for a regulation
Recital 16

Text proposed by the Commission

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment, linguistics and security as well as competitiveness of industry, notably start-ups, micro, small and medium-sized enterprises.

Amendment 10

Proposal for a regulation
Recital 16 a (new)

Text proposed by the Commission

(16a) Digital technologies should be widely accessible to all the necessary public and private bodies, taking into account geographical balance; the
criteria for grants, therefore, should give strong emphasis to the general impact, the availability of technologies and information technologies, and the geographic balance.

Amendment 11
Proposal for a regulation
Recital 20

Text proposed by the Commission

(20) The availability of large-scale data sets and testing and experimentation facilities are of major importance for the development of artificial intelligence.

Amendment

(20) The availability of large-scale data sets, as well as computational linguistics, and testing and experimentation facilities are of major importance for the development of artificial intelligence.

Amendment 12
Proposal for a regulation
Recital 22

Text proposed by the Commission

(22) Cybersecurity is a challenge for the whole Union that cannot continue to be addressed only with fragmented national initiatives. Europe's cybersecurity capacity should be reinforced to endow Europe with the necessary capacities to protect its citizens and businesses from cyber threats. In addition consumers should be protected when using connected products that can be hacked and compromise their safety. This should be achieved together with Member States and private sector by developing, and ensuring coordination between, projects reinforcing Europe's capacities in cybersecurity and ensuring the wide deployment of latest cybersecurity solutions across the economy, as well as by aggregating the competences in this field to ensure critical mass and excellence.

Amendment

(22) Cybersecurity is a challenge for the whole Union that cannot continue to be addressed only with fragmented national initiatives. Europe's cybersecurity capacity should be reinforced to endow Europe with the necessary capacities to protect citizens, businesses and public administrations from cyber threats. In addition consumers should be protected when using connected products that can be hacked and compromise their safety. This should be achieved together with Member States and private sector by developing, and ensuring coordination between, projects reinforcing Europe's capacities in cybersecurity and ensuring the wide deployment of latest cybersecurity solutions across the economy, as well as by aggregating the competences in this field to ensure critical mass and excellence.
Amendment 13
Proposal for a regulation
Recital 25 a (new)

Text proposed by the Commission

(25a) In its resolution of 14 September 2017 on the New Skills Agenda for Europe\(^{65a}\), the European Parliament recalled that in today's society, ensuring basic digital skills is an essential prerequisite for personal and professional fulfilment. Furthermore it stressed the necessity of equipping people with more specific and advanced digital competences in order to be able to use digital technologies in an innovative and creative way.

\(^{65a}\) Texts adopted, P8_TA(2017)0360.

Amendment 14
Proposal for a regulation
Recital 27

Text proposed by the Commission

(27) In its resolution of 1 June 2017 on digitising European industry\(^{67}\) the European Parliament stated that education, training and lifelong learning are the cornerstone of social cohesion in a digital society. It emphasised as well the importance of basic digital skills which should encompass knowledge of the possibilities that digital skills offer, advanced use of basic digital tools, safe internet behaviour and search methodologies to identify credible sources, and promote awareness-raising about rights online. It would also contribute to allowing citizens to have a critical understanding of different forms of digital media and thereby increasing and enhancing the resources and
opportunities offered by ‘digital literacy’.

Amendment 15
Proposal for a regulation
Recital 28

Text proposed by the Commission

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union’s economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Learning and training opportunities, including on-the-job training, blended and distance learning in advanced digital skills need to be scaled up, increased and made accessible throughout the Union. Particular attention should be paid to providing workers, especially in the context of an ageing workforce, the means and tools to benefit from the opportunities offered by new digital infrastructures. Failing this could impede the smooth deployment of advanced digital technologies and hamper the participation of citizens to the public life and the job market, as well as the overall competitiveness of Union’s economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe and Erasmus programmes.
Amendment 16
Proposal for a regulation
Recital 30

Text proposed by the Commission

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, education and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies.

Amendment

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, education and training and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies. The digital transformation should nevertheless take into account that some citizens are not taking part - out of different reasons - in it and networks should be supported to continue informing those citizens, helping them to remain in full possession of their rights and participation to all social and civic duties.

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68

Amendment 17
Proposal for a regulation
Recital 30 a (new)

Text proposed by the Commission

(30a) The deployment and access to advanced technologies in areas of public interest, such as education, also require training in skills necessary to make use of these technologies. Therefore the objectives included in Specific Objective 8 should also cover training programmes for those persons who will be using the advanced technologies.

Amendment

(30a) The deployment and access to advanced technologies in areas of public interest, such as education, also require training in skills necessary to make use of these technologies. Therefore the objectives included in Specific Objective 8 should also cover training programmes for those persons who will be using the advanced technologies.
Amendment 18
Proposal for a regulation
Recital 34 a (new)

Text proposed by the Commission

(34a) In order to make the most of all the opportunities and benefits offered by digital technologies, the existing gap in terms of access and use between public administrations, individuals, businesses and geographical areas should be filled. In view of this, accelerating the adoption of digital infrastructures, in particular in the most disadvantaged areas of the European territory, is fundamental in order to increase inclusiveness as well as the reduction of the digital divide.

Amendment 19
Proposal for a regulation
Recital 35 a (new)

Text proposed by the Commission

(35a) In that context, and as evidenced by the Europeana initiative, the digitisation of European works represents a significant opportunity to improve the accessibility, distribution and promotion of European culture and common cultural heritage. Digital innovation can provide the impetus for a revolution in how cultural goods are exhibited and accessed. Promoting the use of 3D technologies for data collection and the reconstruction of destroyed cultural goods and heritage is, in that regard, of particular importance. Digital Europe can therefore contribute to the guarantee of funding for a fair and ethical digitisation, preservation and online availability of European cultural heritage and culture.
Amendment 20
Proposal for a regulation
Recital 35 b (new)

Text proposed by the Commission

(35b) Furthermore historical and cultural sites are often not easily accessible for persons with disabilities. The Programme could therefore contribute to support digital initiatives aiming at improving engagement and making cultural experiences, sites and artefacts throughout Europe more accessible to persons with disabilities, regardless of geographical location.

Amendment 21
Proposal for a regulation
Recital 35 c (new)

Text proposed by the Commission

(35c) On 31 May 2016, the Council underlined the vital importance of ensuring the sustainable funding and governance of Europeana as a combined effort of cultural heritage institutions, Member States and the Commission. As a well-established digital service infrastructure, the Europeana Digital Service Infrastructure should have priority for funding. In particular, the continuity in Union funding in Digital Europe should be ensured in the multiannual financial framework for the period 2021-2027, in order to allow for the uninterrupted and successful delivery of services at the same level as provided for under the current funding scheme.

Amendment 22
Proposal for a regulation
Recital 37
(37) In April 2016 the Commission adopted the Digitising European Industry initiative to ensure that "any industry in Europe, big or small, wherever situated and in any sector can fully benefit from digital innovations".\(^{71}\)

\(^{71}\) null

Amendment 23

Proposal for a regulation
Recital 39

(39) Reaching the target objectives may require leveraging the potential of complementary technologies in the networking and computing domains, as stated in the Communication "Digitising European Industry"\(^ {73}\) that recognises "availability of world class networking and cloud infrastructure" as an essential ingredient of industry digitisation.

\(^{73}\) COM (2016) 180 final: Digitising European Industry – Reaping the full benefits of a digital single market.

Amendment 24

Proposal for a regulation
Recital 44

(44) In order to ensure uniform conditions for the implementation of this

Deleted
Regulation, implementing powers should be conferred on the Commission for the adoption of the work programmes so that the objectives of the Programme are achieved in accordance with the Union's and Member States' priorities while ensuring consistency, transparency and continuity of joint action by the Union and the Member States. Those powers should be exercised in accordance with the advisory procedure referred to in Article 4 of Regulation (EU) 182/2011 laying down the rules and general principles concerning mechanisms for control by the Member States of the Commission's exercise of implementing powers.


Amendment 25
Proposal for a regulation
Recital 45

Text proposed by the Commission

(45) The work programmes should be adopted in principle as multi-annual work programmes, typically every two years, or, if justified by the needs related to the implementation of the programme, annual work programmes. The types of financing and the methods of implementation under this Regulation should be chosen on the basis of their ability to achieve the specific objectives of the actions and to deliver results, taking into account, in particular, the costs of controls, the administrative burden, and the expected risk of non-

Amendment

(45) Work programmes should be adopted so that the objectives of the Programme are achieved in accordance with the Union's and Member States' priorities, while ensuring consistency, transparency and continuity of joint action by the Union and the Member States. The work programmes should be adopted in principle every two years, or, if justified by the needs related to the implementation of the programme, on an annual basis. The types of financing and the methods of implementation under this
compliance. This should include consideration of the use of lump sums, flat rates and unit costs, as well as financing not linked to costs as referred to in Article 125(1) of the Financial Regulation.

Regulation should be chosen on the basis of their ability to achieve the specific objectives of the actions and to deliver results, taking into account, in particular, the costs of controls, the administrative burden, and the expected risk of non-compliance. This should include consideration of the use of lump sums, flat rates and unit costs, as well as financing not linked to costs as referred to in Article 125(1) of the Financial Regulation.

Amendment 26

Proposal for a regulation
Recital 46

Text proposed by the Commission

(46) The power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission concerning amendments to Annex II to review and/or complement the indicators. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

Amendment

(46) The power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission concerning the adoption of work programmes, amendments to Annex II to review and/or complement the indicators. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

Amendment 27

Proposal for a regulation
Article 1 – paragraph 1

PE625.457v02-00 108/303 RR\1170470EN.docx
This Regulation establishes the Digital Europe programme (‘Programme’), which shall be implemented for the period of 1 January 2021 to 31 December 2027.

Amendment 28

Proposal for a regulation
Article 2 – paragraph 1 – point e

Text proposed by the Commission

(e) ‘Digital Innovation Hub’ means legal entity designated or selected in an open and competitive procedure in order to fulfil the tasks under the Programme, in particular providing access to technological expertise and experimentation facilities, such as equipment and software tools to enable the digital transformation of the industry.

Amendment

(e) ‘Digital Innovation Hub’ means legal entity designated or selected in an open, transparent and competitive procedure, in order to fulfil the tasks under the Programme, in particular providing access to technological expertise and experimentation facilities, such as equipment and software tools, as well as specialised trainings in advance digital skills, to enable the digital empowerment of all European citizens and the digital transformation of the industry and public institutions.

Amendment 29

Proposal for a regulation
Article 2 – paragraph 1 – point f a (new)

Text proposed by the Commission

(fa) "media literacy" means the analytical skills necessary to find one's path of understanding throughout the digital world.

Amendment

(fa) "media literacy" means the analytical skills necessary to find one's path of understanding throughout the digital world.

Amendment 30

Proposal for a regulation
Article 3 – paragraph 1 – introductory part
Text proposed by the Commission

1. The **Programme has the following general objective**: to support the digital transformation of the European economy and society and bring its benefits to European citizens and businesses. **The Programme will**:

Amendment

1. The general objective of the **Programme shall be** to support the digital transformation of the European economy and society and bring its benefits to European citizens and businesses. **It shall**:

Amendment 31

Proposal for a regulation
Article 3 – paragraph 1 – point a

**Text proposed by the Commission**

(a) reinforce Europe's capacities in key digital technology areas through large-scale deployment,

**Amendment**

(a) reinforce Europe's capacities in key digital technology areas, **seeing thereby to a full respect of rights and European values**, through large-scale deployment,

Amendment 32

Proposal for a regulation
Article 3 – paragraph 2 – introductory part

**Text proposed by the Commission**

2. The **Programme will have** five specific objectives:

**Amendment**

2. The five specific objectives of the **Programme shall be**:

Amendment 33

Proposal for a regulation
Article 6 – paragraph 1 – point a

**Text proposed by the Commission**

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation;

**Amendment**

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation **supported by the development of voluntary standards**;

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Amendment 34
Proposal for a regulation
Article 7 – paragraph 1 – introductory part

Text proposed by the Commission

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

Amendment

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase the Union’s talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics, artificial intelligence and computer linguistics. The financial intervention shall pursue the following operational objectives:

Amendment 35
Proposal for a regulation
Article 7 – paragraph 1 – point a

Text proposed by the Commission

(a) support the design and delivery of long-term trainings and courses for students, IT professionals and the workforce;

Amendment

(a) support the design and delivery of high-quality long-term trainings and courses, including blended learning for citizens of all ages, such as students, people in need of upskilling, teachers and trainers, researchers. IT professionals and the workforce and taking into account and respecting language diversity;

Amendment 36
Proposal for a regulation
Article 7 – paragraph 1 – point b

Text proposed by the Commission

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and

Amendment

(b) support the design and delivery of high-quality short-term trainings and courses, including blended learning for
the workforce; teachers, trainers, entrepreneurs, including small business and start-ups leaders, self-employed and the workforce, as well as citizens of all ages in need of upskilling, including in the non-profit sector and cultural, creative, artistic and audiovisual organisations;

Amendment 37

Proposal for a regulation
Article 7 – paragraph 1 – point b a (new)

Text proposed by the Commission

Amendment

(ba) support the design and delivery of Massive Open Online Courses (MOOCs) for jobseekers, students and workers;

Amendment 38

Proposal for a regulation
Article 7 – paragraph 1 – point c

Text proposed by the Commission

(c) support on-the-job trainings and traineeships for students, young entrepreneurs and graduates.

Amendment

(c) support high-quality on-the-job trainings, included blended learning and traineeships for students, young entrepreneurs and graduates, as well as citizens of all ages in need of upskilling.

Amendment 39

Proposal for a regulation
Article 7 – paragraph 1 – point c a (new)

Text proposed by the Commission

Amendment

(ca) support networks or services offering help and continued information to citizens not taking part in the digital development - out of different reasons.
Amendment 40

Proposal for a regulation
Article 7 – paragraph 1 – point c b (new)

Text proposed by the Commission

Amendment

(cb) support on-the-job trainings for the workforce.

Amendment 41

Proposal for a regulation
Article 8 – paragraph 1 – point a

Text proposed by the Commission

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can effectively deploy and have the necessary skills through training to use state-of-the-art digital technologies, in particular high performance computing, language technology, artificial intelligence and cybersecurity;

Amendment 42

Proposal for a regulation
Article 8 – paragraph 1 – point d a (new)

Text proposed by the Commission

Amendment

(da) reduce the distance in terms of use and access to digital services and infrastructures between public administrations, citizens, businesses and geographical areas, supporting their ability to provide more efficient services and encouraging greater citizens’ involvement in decision-making processes;
Amendment 43

Proposal for a regulation
Article 9 – paragraph 1 – subparagraph 1 a (new)

              Text proposed by the Commission                  Amendment

The annual appropriations shall be authorised by the European Parliament and the Council within the limits of the multiannual financial framework.

Amendment 44

Proposal for a regulation
Article 9 – paragraph 2 – introductory part

              Text proposed by the Commission                  Amendment

2. The indicative distribution of the referred amount shall be:

2. The financial envelope referred to in paragraph 1 shall be allocated as follows:

Amendment 45

Proposal for a regulation
Article 9 – paragraph 2 – point a

              Text proposed by the Commission                  Amendment

(a) up to EUR 2 698 240 000 for Specific Objective 1, High Performance Computing

(a) a maximum of 29% for Specific Objective 1, High Performance Computing

Amendment 46

Proposal for a regulation
Article 9 – paragraph 2 – point b

              Text proposed by the Commission                  Amendment

(b) up to EUR 2 498 369 000 for Specific Objective 2, Artificial Intelligence

(b) at least 27% for Specific Objective 2, Artificial Intelligence
Amendment 47

Proposal for a regulation
Article 9 – paragraph 2 – point c

Text proposed by the Commission
(c) up to EUR 1 998 696 000 for Specific Objective 3, Cybersecurity and Trust

Amendment
(c) at least 21% for Specific Objective 3, Cybersecurity and Trust

Amendment 48

Proposal for a regulation
Article 9 – paragraph 2 – point d

Text proposed by the Commission
(d) up to EUR 699 543 000 for Specific Objective 4, Advanced Digital skills

Amendment
(d) at least 9% for Specific Objective 4, Advanced Digital skills

Amendment 49

Proposal for a regulation
Article 9 – paragraph 2 – point e

Text proposed by the Commission
(e) up to EUR 1 299 152 000 for Specific Objective 5, Deployment, best use of digital capacities and Interoperability

Amendment
(e) at least 14% for Specific Objective 5, Deployment, best use of digital capacities and Interoperability

Amendment 50

Proposal for a regulation
Article 13 – paragraph 1

Text proposed by the Commission
1. The Programme is designed to be implemented enabling synergies, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating
alternating way, or through the combination of funds including for the joint funding of actions.

Amendment 51
Proposal for a regulation
Article 16 – paragraph 2 – point a a (new)

Text proposed by the Commission

Amendment

(aa) NUTS classification;

Amendment 52
Proposal for a regulation
Article 16 – paragraph 4

Text proposed by the Commission

Amendment

4. Additional Digital Innovation Hubs shall be selected on the basis of an open and competitive process, in such a way to ensure the widest geographical coverage across Europe. The number of entities of the network shall be proportional to the population of a given Member States and there shall be at least one Digital Innovation Hub per Member State. To address the specific constraints faced by the EU outermost regions, specific entities may be nominated to cover their needs.

Amendment 53
Proposal for a regulation
Article 16 – paragraph 6 – point a

Text proposed by the Commission

Amendment

(a) provide digital transformation services - including testing and experimentation facilities - targeted

(a) provide digital transformation services - including testing and experimentation facilities - targeted
towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies; towards start-ups, SMEs and midcaps, especially in sectors that are slow in the uptake of digital and related technologies;

Amendment 54
Proposal for a regulation
Article 16 – paragraph 6 – point b

Text proposed by the Commission

(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment

(b) transfer expertise and know-how between regions, in particular by networking start-ups, SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment 55
Proposal for a regulation
Article 16 – paragraph 6 – point c

Text proposed by the Commission

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, start-ups, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment 56
Proposal for a regulation
Article 23 – paragraph 1 a (new)

Text proposed by the Commission

1a. The Commission shall be

Amendment

1a. The Commission shall be
empowered to adopt delegated acts in accordance with Article 27 in order to supplement this Regulation by adopting work programmes.

Amendment 57

Proposal for a regulation
Article 23 – paragraph 2

Text proposed by the Commission

2. Those work programmes shall be adopted as multiannual programmes for the entire Programme. If justified by specific implementation needs, they may also be adopted as annual programmes which cover one or more Specific Objectives.

Amendment

2. Those work programmes shall be adopted as multiannual programmes every two years. If justified by specific implementation needs, they may also be adopted as annual programmes which cover one or more Specific Objectives.

Amendment 58

Proposal for a regulation
Article 24 – paragraph 1

Text proposed by the Commission

1. Indicators to monitor the implementation and progress of the Programme in achieving the general and specific objectives set out in Article 3 are set in the Annex II.

Amendment

1. Quantitative and qualitative indicators to monitor the implementation and progress of the Programme in achieving the general and specific objectives set out in Article 3 are set in the Annex II.

Amendment 59

Proposal for a regulation
Article 24 – paragraph 2

Text proposed by the Commission

2. To ensure effective assessment of progress of the Programme towards the achievement of its objectives, the Commission is empowered to adopt delegated acts in accordance with Article

Amendment

2. To assess efficiently the progress of the Programme towards the achievement of its objectives, the Commission shall be empowered to adopt delegated acts in accordance with Article 27 to amend
27 to amend Annex II to review or complement the indicators where considered necessary and to supplement this Regulation with provisions on the establishment of a monitoring and evaluation framework.

Amendment 60

Proposal for a regulation
Article 24 – paragraph 3

Text proposed by the Commission

3. The performance reporting system shall ensure that data for monitoring programme implementation and results are collected efficiently, effectively, and in a timely manner. To that end, proportionate reporting requirements shall be imposed on recipients of Union funds and Member States.

Amendment

3. The performance reporting system shall ensure that data for monitoring programme implementation and results are collected efficiently, effectively, and in a timely manner. To that end, specific reporting requirements shall be imposed on recipients of Union funds and Member States.

Amendment 61

Proposal for a regulation
Article 24 – paragraph 4

Text proposed by the Commission

4. Official EU statistics such as regular ICT statistical surveys shall be used to their maximum. National Statistical Institutes shall be consulted on, and involved together with Eurostat, in the initial design and subsequent development of statistical indicators used for monitoring the implementation of the programme and the progress made with regard to digital transformation.

Amendment

4. Official EU statistics such as regular ICT statistical surveys shall be used in the most efficient manner possible, as well as collection of DESI datasets at NUTS-2 to help address the lack of Digital Europe related regional data. National Statistical Institutes shall be consulted on, and involved together with Eurostat, in the initial design and subsequent development of statistical indicators used for monitoring the implementation of the programme and the progress made with regard to digital transformation.
Amendment 62
Proposal for a regulation
Article 25 – title

Text proposed by the Commission

Evaluation

Amendment

Programme Evaluation

Amendment 63
Proposal for a regulation
Article 25 – paragraph 1

Text proposed by the Commission

1. Evaluations shall be carried out in a timely manner to feed into the decision-making process.

Amendment

1. The Commission shall ensure regular monitoring and external evaluation of the Programme, based notably on the performance reporting system as referred to in Article 24 paragraph 3.

Amendment 64
Proposal for a regulation
Article 25 – paragraph 2

Text proposed by the Commission

2. The interim evaluation of the Programme shall be performed once there is sufficient information available about the implementation of the Programme, but no later than four years after the start of the implementation of the Programme.

Amendment

2. In addition to regularly monitoring the Programme, the Commission shall establish an interim evaluation report and shall submit it to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions no later than 31 December 2024.

Amendment 65
Proposal for a regulation
Article 25 – paragraph 3
3. **At the end of the implementation of the Programme, but no later than four years after the end of the period specified in Article [1], a final evaluation of the Programme shall be carried out by the Commission.**

Amendment 66

Proposal for a regulation
Article 25 – paragraph 4

Text proposed by the Commission

4. **The evaluation reporting system shall ensure that data for programme evaluation are collected efficiently, effectively, in a timely manner and at the appropriate level of granularity by recipients of Union funds;**

Amendment 67

Proposal for a regulation
Article 25 – paragraph 4 a (new)

Text proposed by the Commission

4a. **The Commission shall submit the final evaluation report referred to in paragraph 3 to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions no later than 31 December 2030.**

Amendment 68

Proposal for a regulation
Article 25 – paragraph 5
5. **The Commission shall** communicate the conclusions of the evaluations accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

Amendment 69

Proposal for a regulation
Article 27 – paragraph 2

2. The power to adopt delegated acts referred to in Article 24 shall be conferred on the Commission until 31 December 2028.

Amendment 70

Proposal for a regulation
Article 27 – paragraph 3

3. The delegation of power referred to in Article 24 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

Amendment 71

Proposal for a regulation
Article 27 – paragraph 6
6. A delegated act adopted pursuant to article 24 shall enter into force if no objection has been expressed either by the European Parliament or by the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

Amendment 72

Proposal for a regulation
Annex 1 – part 4 – paragraph 1

Text proposed by the Commission

The Programme shall support easy access to advanced digital skills, notably in HPC, AI, distributed ledgers (e.g. blockchain) and cybersecurity for the current and future labour force by offering students, recent graduates, and existing workers, wherever they are situated, with the means to acquire and develop these skills.

Amendment

The Programme shall support easy access and training opportunities in advanced digital skills, notably in HPC, AI, distributed ledgers (e.g. blockchain) and cybersecurity for the current and future labour force by offering students, recent graduates or citizens of all ages in need of upskilling, jobseekers and existing workers, wherever they are situated, with the means to acquire and develop these skills.

Amendment 73

Proposal for a regulation
Annex 1 – part 4 – paragraph 2 – point 1

Text proposed by the Commission

1. Access to on the job training by taking part in traineeships in competence centres and companies deploying advanced technologies.

Amendment

1. Access to on the job training and blended learning opportunities by taking part in traineeships in competence centres and companies deploying advanced
Amendment 74

Proposal for a regulation
Annex 1 – part 4 – paragraph 2 – point 2 a (new)

_text proposed by the Commission_ Amendment

2a. Access to Massive open online courses (MOOCs) which will be offered by online learning platforms and universities.

Amendment 75

Proposal for a regulation
Annex 1 – part 5 – subpart II – title

_text proposed by the Commission_ Amendment

II Initial activities related to the digitisation of industry:

5. Education and culture: Provide creators and creative industry in Europe with access to latest digital technologies from AI to advanced computing. Exploit the European cultural heritage as a vector to promote cultural diversity, social cohesion and European citizenship. Support the uptake of digital technologies in education.

5. Education and training: Support the uptake of digital technologies and digital communication rules in formal, informal and non-formal education, notably the further inclusion of digital skills, media literacy as well as the use of digital technologies in all curricula with effective access to latest digital technologies from AI to advanced computing, including providing schools with adequate digital infrastructures and equipment, such as high-capacity broadband networks with access to at least 100 Mbps connectivity. Support investment in distance learning, both blended and entirely online. Support
continuing digital education from an early age, without prejudice to nurturing at the same time classical and humanistic skills, without overlooking the risk of digital addiction as well as potential pathologies linked to digitalisation, in the context of social and physical interactions.

Amendment 77

Proposal for a regulation
Annex 1 – part 5 – subpart I – point 5 a (new)

Text proposed by the Commission

Amendment

5a. Cultural and creative sectors: support cultural and creative sectors, in particular the audiovisual sector, in their ongoing digital transformation whilst guaranteeing them the access to the most advanced, sustainable and performing digital technologies from AI to advanced computing, as well as supporting the contribution of the cultural and creative sectors to a fair and ethical use and development of their digital tools and infrastructures.

Amendment 78

Proposal for a regulation
Annex 1 – part 5 – subpart I – point 5 b (new)

Text proposed by the Commission

Amendment

5b. Cultural heritage: Exploit and promote the European cultural heritage, both tangible and intangible as a vector to promote cultural and linguistic diversity, social cohesion and European citizenship. Protect, preserve and disseminate cultural heritage through digitisation and the development of contemporary digital cultural practices, as well as specific digital initiatives such as European, cultural heritage cloud, and other initiatives that take into account the latest
digital technologies.

Amendment 79

Proposal for a regulation
Annex 2 – part 4 – point 4.1

Texture proposed by the Commission

4.1 Number of ICT specialists trained and working

Amendment

4.1 Number of ICT specialists trained and working each year in the Union

Amendment 80

Proposal for a regulation
Annex 2 – part 4 – point 4.2

Texture proposed by the Commission

4.2 Number of enterprises having difficulty recruiting ICT specialists

Amendment

4.2 Number of enterprises having difficulty recruiting ICT specialists each year in the Union

Amendment 81

Proposal for a regulation
Annex 3 – point 1 – point b a (new)

Texture proposed by the Commission

(ba) Digital Europe Programme shall actively create synergies with Horizon Europe around the sustainability of data originating from research projects;

Amendment

4a. Synergies with Creative Europe shall ensure that:

(a) The Programme will support the
development and acquisition of the advanced digital skills needed for the deployment of cutting-edge technologies relevant for the cultural ecosystem and cultural and creative sectors as a whole. It shall enable exchange within cultural sectors and across other sectors on the protocols and advanced digital skills already developed by creative communities with a view to foster its dissemination and uptake.

(b) The Creative Europe Programme, with its general objective of increasing the competitiveness of the cultural and creative sectors, will complement in that regard the interventions of Digital Europe, which aim to support the digital transformation of cultural and creative industries; as well as to ensure the diversity of available platforms taking into consideration the increasing market concentration of digital monopolies.

(c) Within the Programme two leadership projects will ensure the continuation of deployment activities linked to the #Digital4Culture strategy. The leadership project on digital transformation of the cultural heritage sector will continue to support European initiative launched during the European Year on Cultural Heritage 2018. The part of the Programme focusing on digital skills has synergies with issues such as media literacy and film education.

(d) The Programme will support the launch and the realisation of an online directory of European films available on legal on-demand services with the aim of promoting distribution, promotion, visibility and findability at a European level.

(e) The Programme will support the development of new technologies needed to enhance theatrical and online distribution and provide wider access across borders to European audiovisual works, as stated in the priorities of
Amendment 83

Proposal for a regulation
Annex 3 – point 5 – point b a (new)

Text proposed by the Commission

(ba) The programme adequately supports the development and implementation of the European Student Card (e-Card) by providing the technical infrastructure and capacity building and ensuring the development of the trust and security aspects, especially concerning the electronic exchange of data;
## Title
Establishing the Digital Europe programme for the period 2021-2027

## References

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Key to symbols:
+ : in favour
- : against
0 : abstention
07.11.2018

OPINION OF THE COMMITTEE ON BUDGETS

for the Committee on Industry, Research and Energy

on the proposal for a regulation of the European Parliament and of the Council establishing
the Digital Europe programme for the period 2021-2027

Rapporteur for opinion: Paul Rübig

AMENDMENTS

The Committee on Budgets calls on the Committee on Industry, Research and Energy, as the
committee responsible, to take into account the following amendments:

Amendment 1

Proposal for a regulation
Recital 18

Text proposed by the Commission

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited
implementation mechanism, in particular to coordinate national and Union strategies
and investments in high performance computing infrastructure and research and
development, pool resources from public and private funds, and safeguard the
economic and strategic interests of the Union. Moreover, high performance computing
centre in Member States will provide high performance computing services to industry, academia

Amendment

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited
implementation mechanism, in particular to coordinate national and Union strategies
and investments in high performance computing infrastructure and research and
development, pool resources from public and private funds, and safeguard the
economic and strategic interests of the Union. Moreover, high performance computing
centre in Member States will provide high performance computing services to industry, including
and public administrations.

SMEs and start-ups, academia and public administrations.


Amendment 2

Proposal for a regulation
Recital 39 a (new)

Text proposed by the Commission

Amendment

(39a) Blockchain and other distributed ledger technologies can significantly enhance access to distributed datasets across the Union, facilitate notarisation of documents, and enable traceability of transactions or movement of products in a way that is secure and compliant with the EU acquis. They reinforce trust in applications involving multiple stakeholders, enhance collaborative models and enable the defragmentation of distributed datasets. This will lead to quality and efficiency gains, reducing administrative burden, in particular for regulatory reporting and auditing, combating and limiting fraud, incentivising the adoption of best practices and ethical behaviours. Moreover strengthening capacities in Europe to develop and exploit Blockchain and other distributed ledger technologies will reinforce digital innovation ecosystems in Europe and help position European actors amongst the leaders of a new internet economy.

Amendment 3

PE625.457v02-00 132/303 RR\1170470EN.docx
Proposal for a regulation
Recital 39 b (new)

Text proposed by the Commission

(39b) At the European Council meeting on 19 October 2017 Member States concluded the Union needs a sense of urgency to address emerging trends: including blockchain technologies, while at the same time ensuring a high level of data protection, digital rights and ethical standards. The European Parliament resolution on "Distributed ledger technologies and blockchains: building trust with disintermediation" (2017/2772(RSP)) passed on 16 May 2018, recognises the role of blockchain in enhancing innovation in Europe and around the world.

Amendment 4
Proposal for a regulation
Recital 39 c (new)

Text proposed by the Commission

(39c) At the second Digital Day on 10 April, 2018, European counties committed to working together in the development of advanced trusted solutions for public services (e.g. through the development of a European blockchain infrastructure for services) and invited the European Commission to support the development and deployment of blockchain and distributed ledger technology through its digital programmes.

Amendment 5
Proposal for a regulation
Recital 43
(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and lead to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives74. Relevant actions will be identified during the Programme's preparation and implementation, and reassessed in the context of the relevant evaluations and review processes.

74 COM(2018) 321 final, page 1

Amendment 6

Proposal for a regulation
Article 3 – paragraph 2 – introductory part

**Text proposed by the Commission**

2. The Programme will have *five* specific objectives:

**Amendment**

2. The Programme will have *six* specific objectives:

Amendment 7

Proposal for a regulation
Article 3 – paragraph 2 – point e a (new)
Amendment 8
Proposal for a regulation
Article 7 – paragraph 1 – point b

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce;

Amendment 9
Proposal for a regulation
Article 8 – paragraph 1 – point e

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs;

Amendment 10
Proposal for a regulation
Article 8 a (new)

Article 8a
Blockchain and Distributed Ledger Technologies

The financial intervention by the Union under Specific Objective 6: Blockchain and Distributed Ledger Technologies,
shall pursue the following operational objectives:

(a) **Build up and strengthen core Blockchain and Distributed Ledger Technologies capacities in the Union, connecting national / regional blockchain infrastructures and establishing a governance model that can support the development and deployment of new digital services enabled by Blockchain and Distributed Ledger Technologies in accordance with the Union's legal framework;**

(b) **Make those capacities accessible to businesses, [in particular SMEs], public administrations or other organisations in order to support development of innovative cross-border applications of those technologies that will benefit European citizens and the digital economy [in Europe];**

(c) **Further develop, deploy, coordinate and operate at the Union level a European Blockchain Services Infrastructure meeting the highest global standards of cybersecurity, energy efficiency, privacy-compliance and accessible on a non-commercial basis to public and private users to support the delivery of services of public interest;**

(d) **Support the deployment of ready to use/operational technology resulting from research and innovation strengthening an integrated Union innovation ecosystem on Blockchain and Distributed Ledger Technologies, offering testing and experimentation facilities in Member States.**

**Justification**

Blockchain and other distributed ledger technologies can significantly enhance access to distributed datasets across the Union, facilitate notarisation of documents, and enable traceability of transactions or movement of products in a way that is secure and compliant with the EU acquis. They reinforce trust in applications involving multiple stakeholders, enhance collaborative models and enable the defragmentation of distributed datasets. This will lead to quality and efficiency gains, reducing administrative burden, in particular for
regulatory reporting and auditing, combating and limiting fraud, incentivising the adoption of best practices and ethical behaviours.

Amendment 11
Proposal for a regulation
Article 9 – paragraph 1

Text proposed by the Commission
1. The financial envelope for the implementation of the Programme for the period 2021–2027 shall be EUR 9 194 000 000 in current prices.

Amendment
1. The financial envelope for the implementation of the Programme for the period 2021–2027 shall be EUR 8 192 391 000 in 2018 prices (EUR 9 194 000 000 in current prices).

Amendment 12
Proposal for a regulation
Article 9 – paragraph 2 – point a

Text proposed by the Commission
(a) up to EUR 2 698 240 000 for Specific Objective 1, High Performance Computing

Amendment
(a) up to EUR 2 404 289 438 in 2018 prices (EUR 2 698 240 000 in current prices) for Specific Objective 1, High Performance Computing

Amendment 13
Proposal for a regulation
Article 9 – paragraph 2 – point b

Text proposed by the Commission
(b) up to EUR 2 498 369 000 for Specific Objective 2, Artificial Intelligence

Amendment
(b) up to EUR 2 226 192 703 in 2018 prices (EUR 2 498 369 000 in current prices) for Specific Objective 2, Artificial Intelligence

Amendment 14
Proposal for a regulation
Article 9 – paragraph 2 – point c
Text proposed by the Commission

(c) up to EUR 1 998 696 000 for Specific Objective 3, Cybersecurity and Trust

Amendment

(c) up to EUR 1 780 954 875 in 2018 prices (EUR 1 998 696 000 in current prices) for Specific Objective 3, Cybersecurity and Trust

Amendment 15

Proposal for a regulation
Article 9 – paragraph 2 – point d

Text proposed by the Commission

(d) up to EUR 699 543 000 for Specific Objective 4, Advanced Digital skills

Amendment

(d) up to EUR 623 333 672 in 2018 prices (EUR 699 543 000 in current prices) for Specific Objective 4, Advanced Digital skills

Amendment 16

Proposal for a regulation
Article 9 – paragraph 2 – point e

Text proposed by the Commission

(e) up to EUR 1 299 152 000 for Specific Objective 5, Deployment, best use of digital capacities and Interoperability

Amendment

(e) up to EUR 1 157 620 312 in 2018 prices (EUR 1 299 152 000 in current prices) for Specific Objective 5, Deployment, best use of digital capacities and Interoperability

Amendment 17

Proposal for a regulation
Article 13 – paragraph 1 a (new)

Text proposed by the Commission

1 a. The Commission shall ensure that procedural requirements for application and participation in programmes relevant for the Digital Agenda are harmonised.
Amendment 18

Proposal for a regulation
Article 14 – paragraph 2

Text proposed by the Commission

2. The Programme may provide funding in any of the forms laid down in the Financial Regulation, including notably procurement as a primary form as well as grants and prizes. It may also provide financing in the form of financial instruments within blending operations.

Amendment

2. The Programme may provide funding in any of the forms laid down in the Financial Regulation, including notably procurement by the Commission or funding body, by grant beneficiaries individually or jointly as a primary form of the action as well as grants and prizes. Procurements may authorise the award of multiple contracts within the same procedure and may provide for place of performance conditions in line with applicable international procurement agreements. The Programme may also provide financing in the form of financial instruments within blending operations.

Justification

The amendment aims at allowing the use of procurement in the most effective way by clarifying the provision on how the EC or EU funding bodies themselves can be involved as procurers in DEP funded public procurements. Also one procurement can award contracts to multiple vendors or multiple sourcing ensuring better value for money and assuring continuity of supply and service especially for digital technologies.

Amendment 19

Proposal for a regulation
Article 16 – paragraph 6 – point a

Text proposed by the Commission

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

Amendment

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs, midcaps and start-ups, also in sectors that are slow in the uptake of digital and related technologies;

Amendment 20
Proposal for a regulation
Article 16 – paragraph 6 – point b

Text proposed by the Commission
(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment
(b) transfer expertise and know-how between regions, in particular by networking SMEs, midcaps and start-ups, established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment 21

Proposal for a regulation
Article 16 – paragraph 6 – point c

Text proposed by the Commission
(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment
(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs, midcaps and start-ups. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment 22

Proposal for a regulation
Article 20 – paragraph 1 – point d

Text proposed by the Commission
(d) the need to overcome financial obstacles such as the lack of market finance;

Amendment
(d) the need to overcome financial obstacles such as the lack of market finance in particular for young entrepreneurs and SMEs;
Amendment 23

Proposal for a regulation
Article 29 – paragraph 2

Text proposed by the Commission

2. The Commission shall implement information and communication actions relating to the Programme, and its actions and results. Financial resources allocated to the Programme shall also contribute to the corporate communication of the political priorities of the Union, as far as they are related to the objectives referred to in Article [3].

Amendment

2. The Commission shall implement information and communication actions relating to the Programme, and its actions and results. It shall also ensure integrated information and access to potential applicants to Union funding in the digital sector. Financial resources allocated to the Programme shall also contribute to the corporate communication of the political priorities of the Union, as far as they are related to the objectives referred to in Article [3].
## PROCEDURE – COMMITTEE ASKED FOR OPINION

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**Key to symbols:**
- **+**: in favour
- **-**: against
- **0**: abstention
OPINION OF THE COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY

for the Committee on Industry, Research and Energy


Rapporteur for opinion: Adina-Ioana Vălean

AMENDMENTS

The Committee on the Environment, Public Health and Food Safety calls on the Committee on Industry, Research and Energy, as the committee responsible, to take into account the following amendments:

Amendment 1
Proposal for a regulation
Recital 10

Text proposed by the Commission

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital

Amendment

(10) The general objective of the Programme should be to support the digital transformation of industry and of European societies and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses, regions, local communities and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance
skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment 2
Proposal for a regulation
Recital 11

Text proposed by the Commission

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe. A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single

Amendment

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations, public administrations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe. A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open, transparent and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single
As indicated in the Communication on Digitising European Industry (COM(2016) 180 final)

Amendment 3

Proposal for a regulation
Recital 16

Text proposed by the Commission

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by all beneficiaries of the Programme and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards social inclusiveness, health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment 4

Proposal for a regulation
Recital 16 a (new)

Text proposed by the Commission

(16a) The energy consumption of computer devices and data storage centres, which is expected to increase continuously over the next decades, should be based on renewable energy sources.

Amendment

Justice

The storage of data becomes an increasingly prominent problem with data centres estimated to have the fastest growing carbon footprint from across the whole ICT (Information and Communication Technology) sector. Research shows that global electricity usage ascribed to Communication Technology in the coming years are expected to grow, leading to a potential 14% share of global CO2 emissions by 2040 (already 2% today).

https://www.researchgate.net/publication/320225452_Total_Consumer_Power_Consump
Amendment 5

Proposal for a regulation
Recital 18

Text proposed by the Commission

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, academia and public administrations.

Amendment

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, including SMEs and start-ups, academia and public administrations.


Amendment 6

Proposal for a regulation
Recital 28

Text proposed by the Commission

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently

Amendment

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity, data protection and artificial intelligence
mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment 7
Proposal for a regulation
Recital 30

Text proposed by the Commission

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, education and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies.

Amendment

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, reduction of carbon emissions, energy infrastructure, education and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies.

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Amendment 8
Proposal for a regulation
Recital 43

PE625.457v02-00 148/303 RR\1170470EN.docx
(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and lead to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives. Relevant actions will be identified during the Programme’s preparation and implementation, and reassessed in the context of the relevant evaluations and review processes.

74 COM(2018) 321 final, page 1

Amendment 9
Proposal for a regulation
Article 3 – paragraph 1 – point b a (new)

Text proposed by the Commission

(ba) modernise education and training across the Union,

Amendment

Amendment 10
Proposal for a regulation
Article 3 – paragraph 1 – point b b (new)

Text proposed by the Commission

(bb) promote open government

Amendment 11
Proposal for a regulation
Article 3 – paragraph 1 – point b c (new)
Amendment 12
Proposal for a regulation
Article 5 – paragraph 1 – point a

Text proposed by the Commission
(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in compliance with data protection legislation;

Amendment
(b) enhance the use of digital technologies as a means to improve citizen’s access to information and culture and improve their job opportunities.

Amendment 13
Proposal for a regulation
Article 6 – paragraph 1 – point a

Text proposed by the Commission
(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation;

Amendment
(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation and the fundamental rights;

Amendment 14
Proposal for a regulation
Article 7 – paragraph 1 – point b

Text proposed by the Commission
(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and

Amendment
(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders,
the workforce; including start-uppers, and the workforce;

Amendment 15

Proposal for a regulation
Article 8 – paragraph 1 – point a

Text proposed by the Commission

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

Amendment

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, climate, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

Amendment 16

Proposal for a regulation
Article 8 – paragraph 1 – point e

Text proposed by the Commission

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs;

Amendment

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs and start-ups;

Amendment 17

Proposal for a regulation
Article 8 – paragraph 1 – point i a (new)

Text proposed by the Commission

(ii) ensure that the concept of user-centered design is thoroughly adapted by creating digital solutions that are simple, functioning, modifiable and tailorable to personal needs, taking into account the ageing population.
Amendment 18

Proposal for a regulation
Article 16 – paragraph 6 – point a

*Text proposed by the Commission*

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

*Amendment*

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs, midcaps and start-ups, also in sectors that are slow in the uptake of digital and related technologies;

Amendment 19

Proposal for a regulation
Article 16 – paragraph 6 – point b

*Text proposed by the Commission*

(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

*Amendment*

(b) transfer expertise and know-how between regions, in particular by networking SMEs, midcaps and start-ups established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment 20

Proposal for a regulation
Article 16 – paragraph 6 – point c

*Text proposed by the Commission*

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services

*Amendment*

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs, midcaps and start-ups. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services
mentioned in this paragraph; services mentioned in this paragraph;
# PROCEDURE – COMMITTEE ASKED FOR OPINION

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<th>Title</th>
<th>Establishing the Digital Europe programme for the period 2021-2027</th>
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<td>ITRE</td>
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<tr>
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<td>14.6.2018</td>
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<td>Opinion by</td>
<td>ENVI</td>
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<td>Date announced in plenary</td>
<td>14.6.2018</td>
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<tr>
<td>Rapporteur</td>
<td>Adina-Ioana Vălean</td>
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<tr>
<td>Date appointed</td>
<td>21.6.2018</td>
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<tr>
<td>Date adopted</td>
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|--: 5  
|0: 1 |
| Substitutes present for the final vote | Cristian-Silviu Buşoi, Fredrick Federley, Giorgos Grammatikakis, Christophe Hansen, Tilly Metz, Carolina Punset |
| Substitutes under Rule 200(2) present for the final vote | Paul Rübig, Tomáš Zdechovský |
**FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION**

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**Key to symbols:**
+ : in favour
- : against
0 : abstention
7.11.2018

OPINION OF THE COMMITTEE ON THE INTERNAL MARKET AND CONSUMER PROTECTION

for the Committee on Industry, Research and Energy


Rapporteur for opinion: Evelyne Gebhardt

SHORT JUSTIFICATION

Internet and new technologies are comprehensively changing our society and our economy. Increasing investment in modern digital infrastructure – like high-performance computing, artificial-intelligence products and services and efficient cybersecurity capacities – combined with investment in advanced digital skills in these new technologies for workers and students is crucial to ensure that citizens, industry, business and public administrations can take full advantage of these developments and of the Digital Single Market.

In order to stimulate innovation, tackle market fragmentation under fair and balanced conditions and achieve consumer confidence, such a substantial investment in infrastructure and digital skills needs to be executed by the European Union, by Member States and by the private sector. This is entirely in line with the European Parliament’s call, in its report “Towards a digital single market act”\(^1\), for a long-term investment strategy in digital infrastructure and skills as well as the support of digitisation of Europe’s industry and public administration.

The new Digital Europe Programme can be a powerful instrument to support this digital transformation. Furthermore, it complements other programmes of the European Union, supports other Union policies and thus creates synergy effects, in particular with:

- the Horizon Europe Programme, supporting research and development of new

\(^1\) Own initiative report “Towards a digital single market act” (2015/2147(INI)
technologies;

- the European Regional Development Funds (EDRF), supporting inter alia the deployment of digital solutions, including cybersecurity;
- the Connecting Europe Facility, providing infrastructure for broadband networks;

The rapporteur welcomes the proposal of the new Digital Europe Programme and suggests to maintain the total budget of the Programme of 8.192 billion in constant prices (i.e. 9.194 billion in current prices) as proposed by the Commission, in accordance with the agreement of the European Parliament based on its resolution of 14 March 2018. Nevertheless, the rapporteur calls on the Member States and the private sector to make the financial contribution needed to achieve the Programme’s objectives.

Furthermore, the rapporteur welcomes the integration of existing and new Digital Innovation Hubs to implement the Programme. Digital Innovation Hubs will support the digital transformation of European industry, in particular SMEs, and of public administration and diffuse digital capacities on a local level. Therefore, the rapporteur suggests increasing the responsibilities of the Digital Innovation, clarifying that Hubs should be allowed to receive other public or private contributions and own revenues created by the Digital Innovations Hubs. In addition, Digital Innovation Hubs should be free to define their internal organisation, their composition, their work programme and working methods.

In order to avoid significant investment gaps in other new technologies covered by the Horizon Europe Programme but not the Digital Europe Programme, it should be made clear that those other new technologies can attract funding under this Programme provided they are part of a comprehensive and related solution with the technologies that are covered under Articles 4 to 8.

Specific objectives:

The rapporteur supports the EuroHPC declaration and the proposal of the Commission for a Council Regulation establishing the EuroHPC Joint undertaking, which seems to be an effective and efficient instrument to acquire, deploy and maintain the integrated high performance computing infrastructure.

In light of European industry’s undoubtedly increasing demand for AI robotics solutions and distributed ledger technology (e.g. blockchain) and the importance of avoiding a significant investment gap in these fields, the Programme’s objectives should encompass robotics powered by artificial intelligence and distributed ledger technology.

With regard to the fight against digital exclusion, the rapporteur suggests to open up opportunities for advanced long-term training to all qualified persons. Given the large number

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1 European Parliament resolution of 14 March 2018 on the next MFF: Preparing the Parliament’s position on the MFF post-2020 reached with MFF 2021-2027
of people that have to be trained to satisfy European industry’s needs, and given the challenge of recruiting enough qualified trainers for that task, the rapporteur also suggests to support the design and provision of a pan-European e-learning platform.

AMENDMENTS

The Committee on the Internal Market and Consumer Protection calls on the Committee on Industry, Research and Energy, as the committee responsible, to take into account the following amendments:

Amendment 1

Proposal for a regulation
Recital 5 a (new)

Text proposed by the Commission

Amendment

(5 a) The Programme should ensure utmost transparency, accountability and democratic scrutiny of innovative financial instruments and mechanisms that involve the Union budget, especially as regards their contribution, both as regards initial expectations and end results made towards achieving Union objectives.

Amendment 2

Proposal for a regulation
Recital 6

Text proposed by the Commission

Amendment

(6) The Tallinn Digital Summit\textsuperscript{55} of September 2017 and the Conclusions of the European Council\textsuperscript{56} of 19 October 2017 indicated the need for Europe to invest in digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and
cultural diversity. Seizing these opportunities requires collectively tackling some of the challenges posed by the digital transformation and reviewing policies affected by the digital transformation. **Optimally, the financial envelope for this Programme, a European level effort, shall be increased by significant private sector funds and contributions from the Member States.**

Amendment 3

Proposal for a regulation
Recital 7 a (new)

*Text proposed by the Commission*

(7a) On 10 April 2018 Member States expressed their support and a joint will to cooperate together on initiatives on artificial intelligence and distributed ledger technologies (for example blockchain) infrastructure services by signing cooperation agreements.

Amendment 4

Proposal for a regulation
Recital 8

*Text proposed by the Commission*

(8) The Commission's Communication on 'A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020*' outlines among the options for the future financial framework a programme
for Europe's digital transformations to deliver 'strong progress towards smart growth in areas such as high quality data infrastructure, connectivity and cybersecurity'. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It would reinforce the competitive position of industry and businesses in Europe across the digitised economy and would have a significant impact on filling the skills gap across the Union.

57 COM(2018) 98 final

Justification

Given that on the one hand China, Japan and the United States are widely seen as leading countries in relation to new technologies and that on the other hand the budget of the Programme is limited to less than 10 billion Euro, a more realistic approach seems appropriate. In its resolution of 16 February 2017 on the European cloud initiative, the European Parliament already noted the lack of HPC capacity in Europe. It stressed that the EU was ‘lagging behind in the development of HPC as a result of its under-investment in establishing a complete HPC system, when countries like the USA, China, Japan and Russia are significantly investing in such systems, making them a strategic priority, with national programmes to develop them.'

Amendment 5

Proposal for a regulation

Recital 10

Text proposed by the Commission

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-
performance computing, cybersecurity, artificial intelligence, advanced digital skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment 6
Proposal for a regulation
Recital 10 a (new)

Text proposed by the Commission

(10 a) The Programme should be structured into five specific objectives reflecting key policy areas, namely: (a) high-performance computing, (b) artificial intelligence and distributed ledger technologies, (c) cybersecurity, (d) advanced digital skills, and (e) deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment 7
Proposal for a regulation
Recital 10 b (new)

Text proposed by the Commission

(10 b) The Programme should support a fair digital transition and uphold the common values of the European Union, including the right to education, the protection of workers’ rights, guarantee fair competition, promote equality and ensure that digitisation contributes to
rising social and labour standards, and promote prosperity for all European citizens, democracy and security.

Amendment 8
Proposal for a regulation
Recital 11

Text proposed by the Commission

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe\(^59\). A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market.

Amendment

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe\(^59\). A first set of Digital Innovation Hubs should be selected based on Member States’ proposals and then the network should be enlarged through an open, transparent and competitive process. The Digital Innovation Hubs should serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, robotics powered by artificial intelligence, and distributed ledger technologies, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They should act as single-entry points in accessing tested and validated technologies and promote open innovation and provide assistance to businesses especially SMEs and start-ups. They should also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should contribute to the participation of a broad range of partners of all sizes from both private and public sectors, and from a range of economic sectors, and should also contribute to the participation of the outermost regions in the Digital Single Market. Digital
Innovation Hubs should have substantial overall autonomy to define their internal organisation and composition, as well as their precise work programme and working methods.

59 As indicated in the Communication on Digitising European Industry (COM(2016) 180 final)

Amendment 9

Proposal for a regulation
Recital 11 a (new)

Text proposed by the Commission

(11 a) In order to create synergies between investments under this Programme and Union research and development investments, in particular those under the Horizon Europe programme, Digital Innovation Hubs should act as a platform to bring together industry, business and administrations which are in need of new technology solutions on one side, with companies, notably start-ups and SMEs, that have market-ready solutions on the other side.

Amendment 10

Proposal for a regulation
Recital 11 b (new)

Text proposed by the Commission

(11 b) Digital Innovation Hubs should be allowed to receive contributions from Member States, participating third countries or public authorities within them, contributions from international bodies or institutions, contributions from the private sector, in particular from members, shareholders or partners of the Digital Innovation Hubs, revenues
generated by the Digital Innovation Hubs’ own assets and activities, bequests, donations and contributions from individuals or funding in the form of grants including from the Programme and other EU programmes.

Amendment 11
Proposal for a regulation
Recital 12

Text proposed by the Commission

(12) The Programme should be implemented through projects reinforcing essential digital capacities and their wide use. This should involve co-investments with Member States and, when needed, the private sector. This should notably require reaching a critical mass in procurement to obtain better value for money and guarantee that suppliers in Europe stay at the forefront of technology advancements.

Amendment

(12) The Programme should be implemented through projects reinforcing essential digital capacities and their wide use. This should involve co-investments with Member States and the private sector. This should notably require reaching a critical mass in procurement to obtain better value for money and guarantee that suppliers in Europe reach the forefront of technology advancements.

Amendment 12
Proposal for a regulation
Recital 14

Text proposed by the Commission

(14) The Programme’s actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

Amendment

(14) The Programme’s actions should also be used to reinforce and extend the Union’s digital base, tackle major societal challenges, further raise the Union’s digital industrial competences, as well as address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

Amendment 13
(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

(17) The support to the Union’s intervention in this area was expressed by the Council\textsuperscript{60} and, by the European Parliament\textsuperscript{61}. Moreover, in 2017 nine Member States signed the EuroHPC Declaration\textsuperscript{62}, a multi-government agreement where they commit to collaborate with the Commission to build and deploy state-of-the-art HPC and data infrastructures in Europe that would be available across the Union for scientific communities, public and private partners.

\textsuperscript{60}
\textsuperscript{61}
\textsuperscript{62}

Amendment 14

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The Programme provides a good opportunity for other Member States to sign that declaration.
Amendment 15
Proposal for a regulation
Recital 18

Text proposed by the Commission

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, academia and public administrations.

Amendment

(18) For the high performance computing specific objective the HPC joint undertaking (EuroHPC JU) is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union. The EuroHPC JU will enable Member States to coordinate together with the Union their supercomputing strategies and investments. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, especially SMEs and start-ups, academia and public administrations. The Programme should therefore finance the EuroHPC JU for the sole purpose of investing in high performance computing under the Programme.


Amendment 16
Proposal for a regulation
Recital 19
Text proposed by the Commission

(19) Developing capacity related to artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in factories, deep sea application, homes, cities and hospitals. Commercial artificial intelligence platforms have moved from testing to real applications in health and environment; all major car manufacturers are developing self-driving cars, and machine learning techniques are at the heart of all main web platforms and big data applications.

Amendment

(19) Developing capacity related to artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in production processes, deep sea application, homes, cities, medical and pharmaceutical areas. Commercial artificial intelligence platforms have moved from testing to real applications in health and environment; all major car manufacturers are developing self-driving cars, and machine learning techniques are at the heart of all main web platforms and big data applications.

Artificial intelligence (AI) will provide entirely new areas in science, for example the use of artificial intelligence for drug discovery and related areas such as synthetic biology for the manufacture and rapid design of microorganisms for industrial uses. The future application of artificial intelligence in cybersecurity should reduce the success of hacker attacks.

Amendment 17

Proposal for a regulation
Recital 19 a (new)

Text proposed by the Commission

(19 a) The increasingly rapid development of self-learning robots and artificial intelligence as well as their ability to multiply knowledge and learning content within seconds makes it difficult to predict any stage of development until the Programme’s termination in 2027. Consequently, the Commission should pay particular attention to this fast-evolving digital trend and, if applicable should swiftly adapt the objectives of the work programme, accordingly.
Amendment 18
Proposal for a regulation
Recital 19 b (new)

Text proposed by the Commission

(19 b) In light of European industry’s increasing demand for AI robotics solutions and the importance of avoiding a significant investment gap in this field, the Programme’s objectives on artificial intelligence should encompass robotics powered by artificial intelligence.

Amendment 19
Proposal for a regulation
Recital 19 c (new)

Text proposed by the Commission

(19 c) Products and services based on artificial intelligence should be user-friendly, legally compliant by default and provide consumers with more choice and more information, in particular on the quality of products and services.

Amendment 20
Proposal for a regulation
Recital 20

Text proposed by the Commission

(20) The availability of large-scale data sets and testing and experimentation facilities are of major importance for the development of artificial intelligence.

(20) The availability of large-scale data sets and testing and experimentation facilities to secure the internal market where artificial intelligence is used and access to text and data mining are of major importance for the development of artificial intelligence.
Amendment 21
Proposal for a regulation
Recital 20 a (new)

Text proposed by the Commission

(20a) In its resolution of 12 September 2018 on autonomous weapon systems 1a the European Parliament reaffirmed the EU’s ambition to be a global actor for peace, called for the expansion of its role in global disarmament and non-proliferation efforts and urged the Vice-President of the Commission / High-Representative of the Union for Foreign Affairs and Security Policy, the Member States and the Council to work towards the start of international negotiations on a legally binding instrument prohibiting lethal autonomous weapon systems. Lethal autonomous weapons are mostly based on Artificial Intelligence. Consequently, financial contributions by the Union under Specific Objective 2 of the Programme should not be used for military purposes.


Amendment 22
Proposal for a regulation
Recital 20 b (new)

Text proposed by the Commission

(20b) On 25 April 2018 the Commission committed to propose a European approach by developing draft Artificial Intelligence guidelines in cooperation with stakeholders within the AI alliance, a group of artificial intelligence experts, in order to boost AI-powered applications and businesses in Europe.
Amendment 23

Proposal for a regulation
Recital 21

_text proposed by the Commission_

(21) In its resolution of 1 June 2017 on digitising European industry, the European Parliament highlighted the importance of a common European cybersecurity approach, recognising the need to raise awareness and considered cyber-resilience as a crucial responsibility for business leaders and national and European industrial security policymakers.

_amendment_

(21) In its resolution of 1 June 2017 on digitising European industry, the European Parliament highlighted, in the context of potential vulnerabilities as regards cyber attacks, sabotage, manipulation of data or industrial espionage, the importance of a common European cybersecurity approach, recognising the need to raise awareness on enhancing cybersecurity and considered cyber-resilience and implementation of security and privacy by default and by design as a crucial responsibility for business leaders and national and European industrial security policymakers, as well as highlighting the need to make cybersecurity requirements mandatory for public procurement with regard to IT equipment and IoT products.

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64 Document ref. A8-0183/2017, available at:

Amendment 24

Proposal for a regulation
Recital 21 a (new)

_text proposed by the Commission_

(21 a) Data and IT infrastructure security and trust in the digital environment are essential for unlocking the full potential of growth and innovation connected with the digitisation of industry as well as public administrations for the benefit of citizens,
workers, consumers and businesses, including SMEs and start-ups.

Amendment 25

Proposal for a regulation
Recital 23

Text proposed by the Commission

(23) In September 2017, the Commission put forward a package of initiatives in setting out a comprehensive Union approach to cybersecurity, with the aim of reinforcing Europe’s capacities to deal with cyber-attacks and threats and to strengthen technology and industrial capacity in this field.

Amendment

(23) In September 2017, the Commission put forward a package of initiatives setting out a comprehensive Union approach to cybersecurity, with the aim of reinforcing Europe’s capacities to deal with cyber-attacks, **to increase cyber resilience** and threats and to strengthen technology and industrial capacity in this field.


Amendment 26

Proposal for a regulation
Recital 23 a (new)

Text proposed by the Commission

(23 a) As a matter of principle, cybersecurity solutions should contain safety and security standards as core design parameters according to the available state-of-the-art technology and the principles of ‘security by design’ and ‘security by default’.

Amendment

(23 a) **As a matter of principle, cybersecurity solutions should contain safety and security standards as core design parameters according to the available state-of-the-art technology and the principles of ‘security by design’ and ‘security by default’**.


Amendment 27

Proposal for a regulation
Recital 24

RR\1170470EN.docx 171/303 PE625.457v02-00
(24) Trust is a prerequisite for the Digital Single Market to function. cybersecurity technologies such as digital identities, cryptography or intrusion detection, and their application in areas such as finance, industry 4.0, energy, transportation, healthcare, or e-government are essential to safeguard the security and trust of online activity and transactions by both citizens, public administrations, and companies.

Amendment 28
Proposal for a regulation
Recital 25

Text proposed by the Commission

(25) The European Council in its conclusions of 19 October 2017 stressed that to successfully build a Digital Europe, the Union needs in particular labour markets, training and education systems fit for the digital age and that there is a need to invest in digital skills, to empower and enable all Europeans;

Amendment

(25) The European Council in its conclusions of 19 October 2017 stressed that to successfully build a Digital Europe, the Union needs in particular labour markets, life-long learning and innovation-driven training and education systems fit for the potential and challenges of the digital age and that it is crucial to invest in digital skills in order to empower and enable all European citizens and businesses;

Amendment 29
Proposal for a regulation
Recital 26 a (new)

Text proposed by the Commission

(26a) Considering the need for a holistic approach, the Programme should also take into account the areas of inclusion, qualification, training and specialization
which, in addition to advanced digital competences, are decisive for the creation of added value in the knowledge society.

Amendment 30
Proposal for a regulation
Recital 27

Text proposed by the Commission

(27) In its resolution of 1 June 2017 on digitising European industry the European Parliament stated that education, training and lifelong learning are the cornerstone of social cohesion in a digital society.

Amendment

(27) In its resolution of 1 June 2017 on digitising European industry the European Parliament stated that education, training and lifelong learning are the cornerstone of social cohesion in a digital society. They are of utmost importance for fighting digital exclusion and for promoting inclusiveness and the competitiveness of European regions.


Amendment 31
Proposal for a regulation
Recital 28

Text proposed by the Commission

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU.

Amendment

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity, cloud computing, data protection and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, qualitatively
Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

**Amendment 32**

Proposal for a regulation

Recital 29

*Text proposed by the Commission*

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe.

**Amendment**

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency, **transparency** and the quality of the services provided to citizens and businesses. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe.

**Amendment 33**

Proposal for a regulation

Recital 29 a (new)

*Text proposed by the Commission*

(29 a) The accelerating digitisation in the Member States must reduce the growing gap between poor and rich. Therefore, the Programme should contribute to more...
Amendment 34
Proposal for a regulation
Recital 32

Text proposed by the Commission

(32) The modernisation of European public administrations is one of the key priorities for successful implementation of the Digital Single Market Strategy. The mid-term evaluation of the Strategy highlighted the need to strengthen the transformation of public administrations and to ensure citizens have easy, trusted, and **seamless** access to public services.

Amendment

(32) The modernisation of European public administrations is one of the key priorities for successful implementation of the Digital Single Market Strategy. The mid-term evaluation of the Strategy highlighted the need to strengthen the transformation of public administrations and to ensure citizens have easy, trusted, and **inclusive** access to public services.

Amendment 35
Proposal for a regulation
Recital 33

Text proposed by the Commission

(33) The Annual Growth Survey published by the Commission in 2017 shows that the quality of European public administrations has a direct impact on the economic environment and is therefore crucial to stimulating productivity, competitiveness, economic cooperation, growth **and** employment. In particular, efficient and transparent public administration and effective justice systems are necessary to support economic growth and deliver high quality services for firms and citizens.

Amendment

(33) The Annual Growth Survey published by the Commission in 2017 shows that the quality of European public administrations has a direct impact on the economic environment and is therefore crucial to stimulating productivity, competitiveness, economic cooperation, **sustainable** growth, employment **and** high-quality work. In particular, efficient and transparent public administration and effective justice systems are necessary to support economic growth and deliver high quality services for firms and citizens.

69 COM(2016) 725 final

69 COM(2016) 725 final
Amendment 36
Proposal for a regulation
Recital 34

Text proposed by the Commission

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates successful implementation of policies and offers great potential to avoid cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, common public services at Union level. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, and the most responsive to end-users. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates cross-border co-operation, alignment of common standards, successful implementation of policies and offers great potential to avoid cross-border electronic barriers, to cut red tape, further securing the emergence of new, or the consolidation of developing, common public services at Union level. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, and the most responsive to end-users. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment 37
Proposal for a regulation
Recital 41 a (new)

Text proposed by the Commission

(41 a) The Programme should support open-source projects provided that they are in line with the Programme's
conditions, in particular in relation to security and data protection.

Amendment 38

Proposal for a regulation
Article 2 – paragraph 1 – point e a (new)

Text proposed by the Commission

(ea) ‘small and medium-sized enterprises’ or ‘SMEs’ means small and medium-sized enterprises as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC;

Amendment 39

Proposal for a regulation
Article 3 – paragraph 1 – introductory part

Text proposed by the Commission

1. The Programme has the following general objective: to support the digital transformation of the European economy and society and bring its benefits to European citizens and businesses. The Programme will:

Amendment

1. The Programme has the following general objective: to support the digital transformation of the European economy and society, to boost Europe’s innovative capacity and bring its benefits to European citizens and businesses, especially SMEs. The Programme will:

Amendment 40

Proposal for a regulation
Article 4 – paragraph 1 – point b

Text proposed by the Commission

(b) deploy ready to use/operational technology resulting from research and innovation to build an integrated Union high performance computing ecosystem, covering all scientific and industrial value chain segments, including hardware, software, applications, services, interconnections and digital skills;

Amendment

(b) deploy ready to use/operational technology resulting from research and innovation, including technologies that have previously benefitted or that currently benefit from Union funding, to build an integrated Union high performance computing ecosystem, covering all scientific and industrial value
chain segments, including hardware software, applications, services, interconnections and digital skills;

**Amendment 41**

**Proposal for a regulation**  
**Article 4 – paragraph 1 – point c**

*Text proposed by the Commission*

(c) deploy and operate a post-exascale\(^78\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures for computing science.

\(^78\) A thousand times faster than exascale

*Amendment*

(c) deploy and operate a post-exascale\(^78\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures for computing science, *that shall be accessible on a non-commercial basis to public and private users and for publicly funded research purposes*;

\(^78\) A thousand times faster than exascale

**Amendment 42**

**Proposal for a regulation**  
**Article 5 – paragraph 1 – point a**

*Text proposed by the Commission*

(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in compliance with data protection legislation;

*Amendment*

(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in compliance with data protection legislation *and guided by the principles of security and privacy by design and by default*;

**Amendment 43**

**Proposal for a regulation**  
**Article 5 – paragraph 1 – point b**

*Text proposed by the Commission*

(b) make those capacities accessible to

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*Amendment*

(b) make those capacities accessible to
all businesses and public administrations; all businesses and public administrations, as well as to not-for-profit organisations, research institutions and universities;

Amendment 44

Proposal for a regulation
Article 5 – paragraph 1 – point c

Text proposed by the Commission

(c) reinforce and network existing artificial intelligence testing and experimentation facilities in Member States;

Amendment

(c) reinforce and network existing ethical artificial intelligence testing and experimentation facilities in Member States;

Justification

Ethics is a necessary prerequisite for respecting the fundamental rights in Artificial Intelligence research and deployment, therefore funding should only be provided for those initiatives that abide by it.

Amendment 45

Proposal for a regulation
Article 5 – paragraph 1 – point c a (new)

Text proposed by the Commission

(c a) reinforce, develop, network and strengthen existing artificial intelligence sectors, especially where Europe is already a leader, such as robotics, automotives, manufacturing, household appliances, space technologies and cyber defence technologies.

Amendment

Financial interventions by the Union under Specific Objective 2 of the
Programme shall not be used for military purposes.

Amendment 47

Proposal for a regulation
Article 6 – paragraph 1 – point b

Text proposed by the Commission

(b) support the best use of European knowledge, capacity and skills related to cybersecurity;

Amendment

(b) support the best use of European knowledge, capacity and skills related to cybersecurity, and the sharing and mainstreaming of best practices;

Amendment 48

Proposal for a regulation
Article 6 – paragraph 1 – point c

Text proposed by the Commission

(c) ensure a wide deployment of the latest cybersecurity solutions across the economy;

Amendment

(c) ensure a wide deployment of the latest cybersecurity solutions across the economy, including for industry, as well as for SMEs and start-ups;

Amendment 49

Proposal for a regulation
Article 6 – paragraph 1 – point d a (new)

Text proposed by the Commission

(d a) reinforce capabilities within Member States and private sector to help them comply with Regulation xx/xx of the European Parliament and of the Council on ENISA, the “EU Cybersecurity Agency”, and repealing Regulation (EU) No 526/2013, and on Information and Communication Technology cybersecurity certification1a.

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Amendment 50

Proposal for a regulation
Article 6 – paragraph 1 – point d b (new)

Text proposed by the Commission

(d b) support the mission, objectives and tasks of the European Cybersecurity Industrial, Technology and Research Competence Centre[1] in so far as the objectives under Article 3 of this Programme are concerned[1b].


Amendment 51

Proposal for a regulation
Article 7 – paragraph 1 – introductory part

Text proposed by the Commission

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

Amendment

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, cloud computing, data protection competencies, distributed ledger technologies, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:
objectives:

**Amendment 52**

Proposal for a regulation
Article 7 – paragraph 1 – point a

*Text proposed by the Commission*

(a) support the design and delivery of long-term trainings and courses for students, IT professionals and the workforce;

*Amendment*

(a) support the design and delivery of both general and specialised long-term trainings and high-quality courses for students, teachers, academics, ICT professionals, other qualified persons and the broader workforce, taking into consideration different levels of skills;

**Amendment 53**

Proposal for a regulation
Article 7 – paragraph 1 – point b

*Text proposed by the Commission*

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce;

*Amendment*

(b) support the design and delivery of short-term trainings and high-quality courses for entrepreneurs, including self-employed persons, leaders of SMEs and start-ups, and the workforce, including public servants;

**Amendment 54**

Proposal for a regulation
Article 7 – paragraph 1 – point c a (new)

*Text proposed by the Commission*

(c a) support the design and provision of a pan-European e-learning platform;

*Amendment*

(c a) support the design and provision of a pan-European e-learning platform;

**Amendment 55**
Proposal for a regulation
Article 8 – paragraph 1 – point a

Text proposed by the Commission

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

Amendment

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport and communications, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

Amendment 56

Proposal for a regulation
Article 8 – paragraph 1 – point b

Text proposed by the Commission

(b) deploy, operate and maintain trans-European interoperable Digital Service Infrastructures (including related services) in complementarity with national and regional actions;

Amendment

(b) deploy, operate, maintain and expand state-of-the-art trans-European interoperable Digital Service Infrastructures (including related services) in complementarity with national and regional actions;

Amendment 57

Proposal for a regulation
Article 8 – paragraph 1 – point c

Text proposed by the Commission

(c) facilitate the development, update and use of solutions and frameworks by European public administrations, businesses and citizens, including the re-use of interoperability solutions and frameworks;

Amendment

(c) facilitate the development, deployment, update and use of solutions and frameworks by European public administrations, businesses and citizens, including open-source solutions and the re-use of interoperability solutions and frameworks;
Amendment 58
Proposal for a regulation
Article 8 – paragraph 1 – point d

Text proposed by the Commission
(d) offer to public administrations access to testing and piloting of digital technologies, including their cross-border use;

Amendment
(d) offer to public administrations access to testing and piloting of advanced digital technologies, including their cross-border use;

Amendment 59
Proposal for a regulation
Article 8 – paragraph 1 – point e

Text proposed by the Commission
(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs;

Amendment
(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, distributed ledger technologies, cloud computing, cybersecurity, data protection and future emerging technologies by the Union industry, notably SMEs and start-ups, entrepreneurs and self-employed persons;

Amendment 60
Proposal for a regulation
Article 8 – paragraph 1 – point f

Text proposed by the Commission
(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

Amendment
(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and research and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;
Amendment 61
Proposal for a regulation
Article 8 – paragraph 1 – point g

Text proposed by the Commission

(g) ensure a continuous capacity at the Union level to observe, analyse and adapt to fast-evolving digital trends, as well as sharing and mainstreaming best practices;

Amendment

deleted

Amendment 62
Proposal for a regulation
Article 8 – paragraph 1 – point h

Text proposed by the Commission

(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using distributed ledger services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications;

Amendment

(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using, among other things, distributed ledger services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications to support businesses, especially SMEs;

Amendment 63
Proposal for a regulation
Article 10 – paragraph 1 – point 4 – introductory part

Text proposed by the Commission

4. Third countries in accordance with the conditions laid down in a specific agreement covering the participation of the third country to any Union programme, provided that the agreement;

Amendment

4. Third countries in accordance with the conditions laid down in a specific agreement covering the participation of the third country to any Union programme, provided that the Commission has undergone a case-by-case assessment that their participation contributes to the achievement of the objectives of the
programme in the Union and is compliant with the security requirements in accordance with Article 12, and that the agreement;

Amendment 64
Proposal for a regulation
Article 10 – paragraph 1 – point 4 – indent 4

Text proposed by the Commission
- guarantees the rights of the Union to ensure sound financial management and to protect its financial interests.

Amendment
- guarantees the rights of the Union to ensure sound financial management and to protect its interests.

Amendment 65
Proposal for a regulation
Article 11 – paragraph 1 a (new)

Text proposed by the Commission
1a. Planning, development and procurement in the programme shall be done with a view to enhancing European Union competitiveness in the medium and long term. Priority shall be given to actions that increase the strategic potential and limit the dependence on suppliers and products from outside the European Union.

Amendment
Justification
A competitive industry needs that the characteristics of European products are better than those coming from competitors. In order to achieve that medium and long-term objectives need to be favoured.

Amendment 66
Proposal for a regulation
Article 11 – paragraph 2

Text proposed by the Commission

Amendment
2. The cooperation with third countries and organisations mentioned in paragraph 1 under Specific Objective 3, Cybersecurity and Trust shall be subject to Article [12].

2. The cooperation with third countries and organisations mentioned in paragraph 1 under Specific Objective 2, Artificial Intelligence, Specific Objective 3, Cybersecurity and Trust shall be subject to Article [12].

Amendment 67

Proposal for a regulation
Article 12 – paragraph 5 a (new)

Text proposed by the Commission

5a. Actions that limit technology transfers outside the European Union shall be given priority. With a view to ensuring long-term strategic security objectives, an opportunity evaluation shall be done for the participation of entities not having their main establishment in the European Union.

Justification

A competitive industry is also based on its technological level. Advances resulting from the programme’s actions need to be used for increasing European competitiveness.

Amendment 68

Proposal for a regulation
Article 13 – paragraph 1

Text proposed by the Commission

1. The Programme is designed to be implemented enabling synergies, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating way, or through the combination of funds including for the joint funding of actions.

Amendment

1. The Programme is designed to be implemented enabling synergies, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating way, or through the combination of funds including for the joint funding of actions. The Commission shall ensure that when leveraging the complementary character of the
programme with other European programmes, in particular ESF, ERDF, Horizon Europe and CEF-2, the achievement of the specific objectives set in Articles 4 to 8 are not hampered.

Amendment 69

Proposal for a regulation
Article 13 – paragraph 2

Text proposed by the Commission

2. Appropriate mechanisms of coordination between relevant authorities and appropriate monitoring tools shall be established to systematically ensure synergies between the Programme and any relevant EU funding instruments. The arrangements shall contribute to avoiding duplications and maximising impact of expenditure.

Amendment

2. Appropriate mechanisms of coordination between relevant authorities, and between authorities and the European Commission, and appropriate monitoring tools shall be established to systematically ensure synergies between the Programme and any relevant EU funding instruments. The arrangements shall contribute to avoiding duplications and maximising impact of expenditure.

Amendment 70

Proposal for a regulation
Article 16 – paragraph 2 – introductory part

Text proposed by the Commission

2. For the purpose of the establishment of the network mentioned in paragraph 1, each Member State shall designate candidate entities through an open and competitive process, on the basis of the following criteria:

Amendment

2. For the purpose of the establishment of the network mentioned in paragraph 1, each Member State shall designate candidate entities based on harmonised rules through an open, transparent, inclusive and competitive process, on the basis of the following criteria:

Amendment 71

Proposal for a regulation
Article 16 – paragraph 3 – point b a (new)
Amendment 72

Proposal for a regulation
Article 16 – paragraph 4 a (new)

Text proposed by the Commission

4 a. Digital Innovation Hubs shall have substantial overall autonomy to define their internal organisation and composition, as well as their precise work programme and working methods. In particular, Digital Innovation Hubs shall aim to be open to new partners to join Digital Innovation Hubs whenever these members add value to the partnerships and function in an open and transparent way.

Amendment 73

Proposal for a regulation
Article 16 – paragraph 5

Text proposed by the Commission

5. The Digital Innovation Hubs may receive funding in the form of grants.

Amendment

5. The Digital Innovation Hubs may receive contributions from Member States, participating third countries or public authorities within them, contributions from international bodies or institutions, contributions from members, shareholders or partners of the Digital Innovation Hub, revenues generated by the Digital Innovation Hubs own assets and activities, bequest, donations and contributions from individuals or funding in the form of grants including from this
Amendment 74

Proposal for a regulation
Article 16 – paragraph 6 – introductory part

Text proposed by the Commission

6. The Digital Innovation Hubs which receive funding shall be involved in the implementation of the Programme to:

Amendment

6. The Digital Innovation Hubs shall be involved in the implementation of the Programme to:

Amendment 75

Proposal for a regulation
Article 16 – paragraph 6 – point a

Text proposed by the Commission

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

Amendment

(a) provide digital transformation services and technological expertise - including testing and experimentation facilities - targeted towards SMEs, midcaps and start-ups, also in sectors that are slow in the uptake of digital and related technologies;

Amendment 76

Proposal for a regulation
Article 16 – paragraph 6 – point a a (new)

Text proposed by the Commission

(a a) support companies, especially SMEs and start-ups, organisations and public administrations to become more competitive and improve their business models through use of new technologies covered by the Programme;

Amendment

(a a) support companies, especially SMEs and start-ups, organisations and public administrations to become more competitive and improve their business models through use of new technologies covered by the Programme;
Amendment 77

Proposal for a regulation
Article 16 – paragraph 6 – point b

Text proposed by the Commission

(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

Amendment

(b) transfer expertise and know-how between regions, in particular by networking SMEs, midcaps and start-ups established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services and offer coaching consultancy;

Amendment 78

Proposal for a regulation
Article 16 – paragraph 6 – point c

Text proposed by the Commission

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs, midcaps and start-ups. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

Amendment 79

Proposal for a regulation
Article 16 – paragraph 6 a (new)

Text proposed by the Commission

6 a. The European Commission shall, in close cooperation with the Member States, organise continuous monitoring and evaluation of the output, results and impacts of Digital Innovation Hubs

Amendment

6 a. The European Commission shall, in close cooperation with the Member States, organise continuous monitoring and evaluation of the output, results and impacts of Digital Innovation Hubs
receiving EU funds.

Amendment 80

Proposal for a regulation

Article 17 – paragraph 2 a (new)

Text proposed by the Commission

2 a. Actions that pursue objectives relating to other new technologies covered by the Horizon Europe Programme, namely robotics, big data and Key Digital Technologies, shall be eligible for funding, provided that those objectives relate to the specific objectives covered under Articles 4 to 8 and constitute a comprehensive and related solution in a specific project.

Justification

In order to avoid significant investment gaps in other technologies, exclude comprehensive solutions from the Programme or complicate its distinction, other new technologies should also be part of the Programme provided they constitute a comprehensive and related solution with the new technologies according to Art. 4 to 8.

Amendment 81

Proposal for a regulation

Article 18 – paragraph 2 – point a – introductory part

Text proposed by the Commission

(a) legal entities established in:

(a) legal entities established and, if applicable, liable to pay corporate tax in:

Amendment 82

Proposal for a regulation

Article 18 – paragraph 6

Text proposed by the Commission

6. Legal entities established in a third country which is not associated to the

6. Legal entities established in a third country which is not associated to the
programme should *in principle* bear the cost of their participation.

Amendment 83

Proposal for a regulation
Article 20 – paragraph 1 – point e

*Text proposed by the Commission*

(e) where applicable, the economic, social, climate and environmental impact, and accessibility;

*Amendment*

(e) where applicable, the economic, social, climate and environmental impact, *gender equality opportunities* and accessibility;

Amendment 84

Proposal for a regulation
Article 20 – paragraph 1 – point g

*Text proposed by the Commission*

(g) where applicable, a balanced geographical distribution across the Union, including the outermost regions;

*Amendment*

(g) where applicable, a balanced geographical distribution across the Union, including the outermost regions *to reduce the digital divide between regions, citizens and businesses*;

Amendment 85

Proposal for a regulation
Article 20 – paragraph 1 – point h a (new)

*Text proposed by the Commission*

(h a) where applicable, the presence of a plan to create sustainable high-quality employment in the European Union or a participating country.

*Amendment*

(h a) where applicable, the presence of a plan to create sustainable high-quality employment in the European Union or a participating country.

Amendment 86

Proposal for a regulation
Article 20 – paragraph 1 – point h b (new)
Amendment 87

Proposal for a regulation
Article 20 – paragraph 1 – point h c (new)

Text proposed by the Commission

Amendment

(h b) where applicable, the complementarity of the project with other Union programmes;

Amendment 88

Proposal for a regulation
Article 22 – paragraph 2 a (new)

Text proposed by the Commission

Amendment

2 a. Where an action has already been awarded or has received contributions from another Union programme or support from an EU fund, that contribution or support shall be listed in the application for a contribution under the Programme.

Amendment 89

Proposal for a regulation
Article 25 – paragraph 2

Text proposed by the Commission

Amendment

2. The interim evaluation of the Programme shall be performed once there is sufficient information available about the implementation of the Programme, but no later than four years after the start of the implementation of the Programme.
findings necessary to make a decision about a follow-up to the Programme beyond 2027 and its objectives.

The interim evaluation shall be submitted to the European Parliament.

Amendment 90
Proposal for a regulation
Article 25 – paragraph 3

*Text proposed by the Commission*

3. At the end of the implementation of the Programme, but no later than *four* years after the end of the period specified in Article [1], a final evaluation of the Programme shall be carried out by the Commission.

*Amendment*

3. At the end of the implementation of the Programme, but no later than *two* years after the end of the period specified in Article [1], a final evaluation of the Programme shall be carried out by the Commission.

Amendment 91
Proposal for a regulation
Article 26 – paragraph 4

*Text proposed by the Commission*

4. As part of the control system, the audit strategy *may* be based on the financial audit of a representative sample of expenditure. That representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

*Amendment*

4. As part of the control system, the audit strategy *shall* be based on the financial audit of *at least* a representative sample of expenditure. That representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

Amendment 92
Proposal for a regulation
Article 29 – paragraph 1

*Text proposed by the Commission*

1. The recipients of Union funding shall acknowledge the origin and ensure the visibility of the Union funding (in

*Amendment*

1. The recipients of Union funding shall acknowledge the origin and ensure the visibility of the Union funding (in
particular when promoting the actions and their results) by providing coherent, effective and proportionate targeted information to multiple audiences, including the media and the public.

Amendment 93

Proposal for a regulation
Annex I – part 1 – paragraph 2 – point 6

Text proposed by the Commission

6. The deployment of ready to use/operational technology: supercomputing as a service resulting from R&I to build an integrated European HPC ecosystem, covering all scientific and industrial value chain segments (hardware, software, applications, services, interconnections and advanced digital skills).

Amendment

6. The deployment of ready to use/operational technology: supercomputing as a service resulting from R&I, in particular new technologies that have previously benefitted or that currently benefit from Union funding, to build an integrated European HPC ecosystem, covering all scientific and industrial value chain segments (hardware, software, applications, services, interconnections and advanced digital skills).

Amendment 94

Proposal for a regulation
Annex I – part 2 – paragraph 1

Text proposed by the Commission

The Programme shall build up and strengthen core Artificial Intelligence capacities in Europe including data resources and repositories of algorithms and making them accessible by all businesses and public administrations as well as reinforcement and networking of existing AI testing and experimentation facilities in Member States.

Amendment

The Programme shall build up and strengthen core capacities of Artificial Intelligence and distributed ledger technologies in Europe including data resources and repositories of algorithms and making them accessible by all businesses and public administrations as well as reinforcement and networking of existing AI testing and experimentation facilities in Member States.
Amendment 95

Proposal for a regulation
Annex I – part 4 – paragraph 2 – point 1

Text proposed by the Commission

1. Access to *on the job training by taking part in traineeships in competence centres and companies deploying* advanced technologies.

Amendment

1. *The Programme shall support easy access to advanced digital skills, notably in HPC, AI, distributed ledgers (for example block chain) and cybersecurity for the current and future labour force by offering students, recent graduates, existing workers and other qualified persons, wherever they are situated, the means to acquire and develop these skills.*

Amendment 96

Proposal for a regulation
Annex I – part 4 – paragraph 2 – point 2 a (new)

Text proposed by the Commission

2 a. The Programme shall support the design and provision of a pan-European e-learning platform.

Amendment

Amendment 97

Proposal for a regulation
Annex I – part 4 – paragraph 4

Text proposed by the Commission

All interventions will be designed and implemented primarily through the Digital Innovation Hubs, as defined in Article 15.

Amendment

All interventions will be designed and implemented primarily through the Digital Innovation Hubs, as defined in Article 16.

Amendment 98

Proposal for a regulation
Annex I – part 5 – subpart I – point 1 – point 1.2
1.2. Support the design, piloting, deployment, maintenance and promotion of a coherent eco-system of cross-border digital services infrastructure and facilitate seamless end-to-end, secure, interoperable, multi-lingual, interoperable cross-border or cross-sector solutions and common frameworks within public administration. Methodologies for assessing the impact and benefits shall also be included.

Amendment 99

Proposal for a regulation
Annex I – part 5 – subpart I – point 2 – point 2.1

2.1. Ensure that EU citizens can access, share, use, and manage their personal health data securely across borders irrespective of their location or the location of the data. Complete the eHealth Digital Service Infrastructure and extend it by new digital services, support deployment of the European exchange format for electronic health records.

Amendment 100

Proposal for a regulation
Annex I – part 5 – subpart I – point 3

3. Judiciary: Enable seamless and secure cross-border electronic communication within the judiciary and between the judiciary and other competent bodies in the area of civil and criminal justice. Improve access to justice and juridical information and procedures to
Amendment 101
Proposal for a regulation
Annex II – part 5 – point 5.1

Text proposed by the Commission

5.1 Take-up of digital public services

Amendment

5.1 Frequency of take-up of digital public services

Amendment 102
Proposal for a regulation
Annex II – part 5 – point 5.2

Text proposed by the Commission

5.2 Enterprises with high digital intensity score

Amendment

5.2 Number of enterprises with high digital intensity score

Amendment 103
Proposal for a regulation
Annex II – part 5 – point 5.3

Text proposed by the Commission

5.3 Alignment of the National Interoperability Framework with the European Interoperability Framework

Amendment

5.3 Extent of alignment of the National Interoperability Framework with the European Interoperability Framework
Amendment 104
Proposal for a regulation
Annex II – part 2 – point 2.2

Text proposed by the Commission

2.2 Number of companies and organisations using AI

Amendment

2.2 Number of companies and organisations testing and experimenting with AI in co-operation with Digital Innovations Hubs

Amendment 105
Proposal for a regulation
Annex III – point 1 – point c

Text proposed by the Commission

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

Amendment

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national, regional and local deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration, justice and education) or market failure (such as the digitisation of businesses, notably small and medium enterprises);

Amendment 106
Proposal for a regulation
Annex III – point 3 – point c

Text proposed by the Commission

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest (such as health, public administration,

Amendment

(c) Digital Europe will invest in (i) digital capacity building in High Performance Computing, Artificial Intelligence, distributed ledger technology, Cybersecurity and advanced digital skills; and (ii) national and regional deployment within an EU framework of digital capacities and the latest digital technologies in areas of public interest
justice and education) or market failure
(such as the digitisation of businesses,
notably small and medium enterprises);

(such as health, public administration,
justice and education) or market failure
(such as the digitisation of businesses,
notably small and medium enterprises);

Amendment 107

Proposal for a regulation
Annex III – point 3 – point c a (new)

Text proposed by the Commission

(c a) Other new technologies covered by
the Horizon Europe Programme, namely
robotics, big data and Key Digital
Technologies, will be eligible for funding,
provided that those objectives relate to the
specific objectives covered under Articles
4 to 8 and constitute a comprehensive and
related solution in a specific project.
### PROCEDURE – COMMITTEE ASKED FOR OPINION

<table>
<thead>
<tr>
<th>Title</th>
<th>Establishing the Digital Europe programme for the period 2021-2027</th>
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<tbody>
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<td>Committee responsible</td>
<td>ITRE</td>
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<tr>
<td>Date announced in plenary</td>
<td>14.6.2018</td>
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<tr>
<td>Opinion by</td>
<td>IMCO</td>
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<tr>
<td>Date announced in plenary</td>
<td>14.6.2018</td>
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<tr>
<td>Rapporteur</td>
<td>Evelyne Gebhardt</td>
</tr>
<tr>
<td>Date appointed</td>
<td>19.6.2018</td>
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<tr>
<td>Discussed in committee</td>
<td>24.9.2018 10.10.2018</td>
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<tr>
<td>Date adopted</td>
<td>5.11.2018</td>
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| Result of final vote | +: 30  
| | −: 1  
| | 0: 0 |
| Substitutes present for the final vote | Birgit Collin-Langen, Arndt Kohn, Julia Reda, Martin Schirdewan, Marc Tarabella, Lambert van Nistelrooij |
| Substitutes under Rule 200(2) present for the final vote | Clara Eugenia Aguilera García, Esther Herranz García |
## FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

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<td>Daniel Dalton, Nosheena Mobarik, Richard Sulík, Anneleen Van Bossuyt</td>
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<td>EFDD</td>
<td>Marco Zullo</td>
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<td>Martin Schirdewan, Dennis de Jong</td>
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<td>Pascal Arimont, Carlos Coelho, Birgit Collin-Langen, Esther Herranz García, Philippe Juvin, Jiří Pospíšil, Andreas Schwab, Ivan Štefanec, Róža Gräfin von Thun und Hohenstein, Lambert van Nistelrooij</td>
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<td>S&amp;D</td>
<td>Clara Eugenia Aguilera García, Sergio Gaetano Cofferati, Nicola Danti, Evelyne Gebhardt, Maria Grapini, Sergio Gutiérrez Prieto, Arndt Kohn, Christel Schaldemose, Marc Tarabella</td>
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### Key to symbols:
- **+**: in favour
- **-**: against
- **0**: abstention
OPINION OF THE COMMITTEE ON TRANSPORT AND TOURISM

for the Committee on Industry, Research and Energy


Rapporteur for opinion: Deirdre Clune

SHORT JUSTIFICATION

On 6 June 2018 the Commission proposed the Digital Europe Programme for the years 2021 until 2027. This proposal outlines the core objectives of the proposed programme, its budget for the defined period and the different forms of EU funding for this programme and the rules for their application.

The rapporteur for opinion is fully in support of the programme’s overarching objective to encourage and support the digitalisation of the European economy and society. The rapporteur believes that this is essential for Europe to keep-pace with the fast-moving industrial and digital revolution and ensure that our economy and society is properly prepared. It is essential to ensure European competitiveness and promote smart, inclusive and sustainable growth.

The Commission’s proposed programme has five main objectives, which the rapporteur agrees, that will help the EU to further improve the digitalisation of the EU economy, industry and society by boosting investment in these specific streams. It is important to note that this is the first pan-European digital programme and should be seen as a way to ensure the continued competitiveness of the European economy while also strengthening the many projects of common interest with a digital dimension across the Union.

Specific Objective’s 1 -3, particularly Cybersecurity and Trust are of particular importance, as we need to apply high standards of cybersecurity as the transport system becomes more digitised and connected, for example. The rapporteur believes that cross-border cooperation between the Member States will be important in this regard. Specific Objective 4 (Advanced
Digital Skills) is important to European transport and to meet the challenge of a potential digital skills gap as transport becomes more digitised and connected. Specific Objective 5 (Deployment, better use of digital capacities and interoperability) is crucial to boosting the deployment of digital technologies in transport in order to help improve road safety, reduce congestion and emissions while also ensuring a high standard of cybersecurity and adhering to data protection standards. Supporting the deployment of innovative and interoperable solutions in areas such as public transport will be for the benefit of citizens and business, especially SME’s in the transport sector.

While broadly welcoming the proposal, the rapporteur would like to highlight a few additions. Notably, given the likely rise in the development and capacity for autonomous vehicles, the Commission should clarify safety and liability rules for their fast and effective integration into the market. In this vein, the programme should also ensure adequate tools and support for start-ups and SME’s to swiftly integrate viable innovations into the market. The programme should also be aware of the potential of digitalisation to improve barrier free accessibility, particularly for older people and for those with reduced mobility.

Finally, the programme should ensure that there is synergy and complementarity with other Union programmes and projects of common interest, particularly those with a multi sector dimension. It is important that other funding programmes under the next MFF, like CEF-2, are well aligned to ensure most efficient management of EU funds and to provide for the most EU added value from the programme.

**AMENDMENTS**

The Committee on Transport and Tourism calls on the Committee on Industry, Research and Energy, as the committee responsible, to take into account the following amendments:

**Amendment 1**

Proposal for a regulation
Recital 7 a (new)

\[Text proposed by the Commission\]  
\[(7a) For the implementation of the Programme, it is a prerequisite to invest in infrastructure in order to ensure an appropriate level of connectivity through 5G and ultra-fast broadband networks.\]

**Amendment 2**

Proposal for a regulation
Recital 8
(8) The Commission's Communication on 'A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020' outlines among the options for the future financial framework a programme for Europe's digital transformations to deliver 'strong progress towards smart growth in areas such as high quality data infrastructure, connectivity and cybersecurity'. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It would reinforce the competitive position of industry and businesses in Europe across the digitised economy and would have a significant impact on filling the skills gap across the Union.

57 COM(2018) 98 final

Proposal for a regulation
Recital 8 a (new)

Text proposed by the Commission

(8a) Whereas in view of the delay in developing the Union’s strategic digital capacities and the efforts made to remedy this, a budget commensurate with the ambitions of this programme and of at least EUR 9.2 billion should be guaranteed.

Amendment 3

Amendment

57 COM(2018) 98 final
Amendment 4
Proposal for a regulation
Recital 8 b (new)

Text proposed by the Commission

(8b) Uninterrupted and high-performance connectivity is a necessary precondition for further digitalisation of all relevant sectors, including for fast, safe and reliable connections for all transport modes. One of the objectives of the programme will be to reduce the fragmentation of digital coverage within the Union by taking a cross-sectoral approach. Such a level of connectivity should be provided for all main transport routes and hubs.

Amendment 5
Proposal for a regulation
Recital 10

Text proposed by the Commission

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger
investigation, develop stronger synergies and complementarity between programmes with an emphasis on full synergy between the transport, energy and digital sectors, and avoid unnecessary duplication.

Amendment 6

Proposal for a regulation
Recital 10 a (new)

Text proposed by the Commission

(10a) Start-ups and SMEs have already contributed significantly to Europe’s digitalisation process and this programme should provide adequate tools and support in order to ensure the application of new innovations, including swift market integration.

Amendment 7

Proposal for a regulation
Recital 12

Text proposed by the Commission

(12) The Programme should be implemented through projects reinforcing essential digital capacities and their wide use. This should involve co-investments with Member States and, when needed, the private sector. This should notably require reaching a critical mass in procurement to obtain better value for money and guarantee that suppliers in Europe stay at the forefront of technology advancements.

Amendment 8

Proposal for a regulation
Recital 14
Text proposal by the Commission

(14) The Programme's actions should be used to  **address market failures or sub-optimal investment situations**, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

**Amendment**

(14) The Programme's actions should be used to **boost** investment, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

**Amendment 9**

Proposal for a regulation
Recital 17

**Text proposal by the Commission**

(17) The support to the Union's intervention in this area was expressed by the Council60 and, by the European Parliament. Moreover, in 2017 nine Member States signed the EuroHPC Declaration, a multi-government agreement where they commit to collaborate with the Commission to build and deploy state-of-the-art HPC and data infrastructures in Europe that would be available across the Union for scientific communities, public and private partners.

**Amendment**

(17) The support to the Union's intervention in this area was expressed by the Council and, by the European Parliament. Moreover, in 2017 nine Member States, and since then another thirteen Member States, signed the EuroHPC Declaration **(by September 2018, two other Member States committed to join)**, a multi-government agreement where they commit to collaborate with the Commission to build and deploy state-of-the-art HPC and data infrastructures in Europe that would be available across the Union for scientific communities, public and private partners.

**Amendment 10**

Proposal for a regulation
Recital 19

**Text proposal by the Commission**

(19) Developing capacity related to artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in factories, deep sea application, homes, cities and hospitals. Commercial artificial

**Amendment**

(19) Developing capacity related to artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in factories, **the logistics chain**, deep sea application, homes, cities and hospitals. Commercial
intelligence platforms have moved from testing to real applications in health and environment; all major car manufacturers are developing self-driving cars, and machine learning techniques are at the heart of all main web platforms and big data applications.

Amendment 11
Proposal for a regulation
Recital 19 a (new)

Text proposed by the Commission

(19a) As autonomous transport is likely to grow significantly in the near future, and to reflect the expected development of capacity in this field, the Commission should clarify safety and liability rules for fully autonomous transport and safeguard the human and societal interests in order to provide the legal conditions for its fast and effective integration into the market, in the best interest of Union business and consumers.

Amendment 12
Proposal for a regulation
Recital 20

(20) The availability of large-scale data sets and testing and experimentation facilities are of major importance for the development of artificial intelligence.

Amendment 13
Proposal for a regulation
Recital 22
(22) Cybersecurity is a challenge for the whole Union that cannot continue to be addressed only with fragmented national initiatives. Europe's cybersecurity capacity should be reinforced to endow Europe with the necessary capacities to protect its citizens and businesses from cyber threats. In addition consumers should be protected when using connected products that can be hacked and compromise their safety. This should be achieved together with Member States and private sector by developing, and ensuring coordination between, projects reinforcing Europe's capacities in cybersecurity and ensuring the wide deployment of latest cybersecurity solutions across the economy, as well as by aggregating the competences in this field to ensure critical mass and excellence.

Amendment 14
Proposal for a regulation
Recital 24

Text proposed by the Commission

(24) Trust is a prerequisite for the Digital Single Market to function. Cybersecurity technologies such as digital identities, cryptography or intrusion detection, and their application in areas such as finance, industry 4.0, energy, transportation, healthcare, or e-government are essential to safeguard the security and trust of online activity and transactions by both citizens, public administrations, and companies.

Amendment

(24) Trust is a prerequisite for the Digital Single Market to function. Cybersecurity technologies such as digital identities, cryptography or intrusion detection, and their application in areas such as finance, industry 4.0, logistics, energy, transportation, tourism, healthcare, or e-government are essential to safeguard the security and trust of online activity and transactions by both citizens, public administrations, and companies.

Amendment 15
Proposal for a regulation
Recital 28

*Text proposed by the Commission*

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

*Amendment*

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level, however should continue to be supported also at Member States level. Just as the deployment of these technologies requires a Union response so does the skills dimension. Bearing in mind the impact new technologies may have on the job market, training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU, in particular for employees in the sectors that will be most affected by digital innovations. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment 16

Proposal for a regulation
Recital 29

*Text proposed by the Commission*

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a

*Amendment*

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a
number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe. **It is also important that such services be available to persons with disabilities.**

**Amendment 17**

**Proposal for a regulation**  
**Recital 29 a (new)**

*Text proposed by the Commission*

**Amendment**

(29a) *Digitalisation can facilitate and improve barrier-free accessibility for everyone, including older people, persons with reduced mobility or a disability, and those in remote or rural areas.*

**Amendment 18**

**Proposal for a regulation**  
**Recital 30**

*Text proposed by the Commission*

**Amendment**

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, education and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies and ensuring complementarity.

Amendment 19
Proposal for a regulation
Recital 34

Text proposed by the Commission

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates successful implementation of policies and offers great potential to avoid cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, common public services at Union level. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, and the most responsive to end-users. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates successful implementation of policies and offers great potential to avoid cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, common public services at Union level. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic, technology-neutral cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, and the most responsive to end-users. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment 20
Proposal for a regulation
Recital 34 a (new)

Text proposed by the Commission

(34a) In order to create a well-functioning digital single market for the whole Europe, some basic preconditions

Amendment

(34a) In order to create a well-functioning digital single market for the whole Europe, some basic preconditions
have to exist in all Member States. Lack of digital service infrastructure and capacity still hampers the development of smooth cross-border services. Therefore, in addition to supporting the frontrunners and champions and facilitating the sharing of knowledge and best practices, the Union and its programmes should support and allocate adequate resources for the establishment of the basic preconditions and infrastructure for the digital services. The starting point should be to analyse the missing links, functions and features needed for digital services and their full-scale deployments locally, nationally and European wide, covering all sectors of the European economy.

Justification

If the aim is to create a truly well-functioning European-wide digital single market, also the poorest European countries should be included into the process.

Amendment 21

Proposal for a regulation

Recital 43

Text proposed by the Commission

(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and lead to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives. Relevant actions will be identified during the Programme’s preparation and implementation, and reassessed in the context of the relevant evaluations and review processes.

Amendment

(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and lead to the achievement of an overall target of at least 30% of the EU budget expenditures supporting climate objectives. Relevant actions will be identified during the Programme’s preparation and implementation, and reassessed in the context of the relevant evaluations and review processes. As the transport sector currently accounts for almost a quarter of the Union’s GHG emissions, digitisation and digitalisation in particular in the logistics sector,
mobility management, C-ITS and new transport technologies can contribute significantly to achieving the said targets.

Amendment 22

Proposal for a regulation
Article 3 – paragraph 1 – introductory part

Text proposed by the Commission

1. The Programme has the following general objective: to support the digital transformation of the European economy and society and bring its benefits to European citizens and businesses. The Programme will:

Amendment

1. The Programme has the following general objective: to support the digital transformation of the European economy, industry, mobility and society and bring its benefits to European citizens and businesses, especially SMEs. The programme shall also aim to reinforce the strategic autonomy of the Union. The Programme will:

Amendment 23

Proposal for a regulation
Article 3 – paragraph 1 – point a

Text proposed by the Commission

(a) reinforce Europe's capacities in key digital technology areas through large-scale deployment,

Amendment

(a) reinforce the Union's capacities and strategic autonomy in key digital technology areas through large-scale deployment,

Amendment 24

Proposal for a regulation
Article 3 – paragraph 1 – point b

Text proposed by the Commission

(b) widen their diffusion and uptake in areas of public interest and the private sector

Amendment

(b) widen their diffusion and uptake in areas of public interest and the private sector, including the digital
sector.

transformation of services of public interest and the digitisation of industry.

Amendment 25

Proposal for a regulation
Article 3 – paragraph 1 – point b a (new)

Text proposed by the Commission

(b a) support cross-sectoral programmes and ensure their synergy and complementarity with an emphasis on sectors with projects of common interest such as transport, energy and telecommunications.

Amendment 26

Proposal for a regulation
Article 4 – paragraph 1 – point a

Text proposed by the Commission

(a) deploy, coordinate at the Union level and operate an integrated world-class exascale supercomputing and data infrastructure in the Union that shall be accessible on a non-commercial basis to public and private users and for publicly funded research purposes;

(a) deploy, coordinate at the Union level and operate an integrated world-class exascale supercomputing and data infrastructure in the Union that shall be accessible to all businesses and public administrations, on a non-commercial basis to public and private users and for publicly funded research purposes;

77 Billions of billions of floating operations per second

Amendment 27

Proposal for a regulation
Article 5 – paragraph 1 – point a

Text proposed by the Commission

(a) build up and strengthen core artificial intelligence capacities in the

(a) build up and strengthen core artificial intelligence capacities in the
Union, including data resources and libraries of algorithms in compliance with data protection legislation; Union, \textit{by respecting geographical balance in accordance with point (g) of Article 20(1), including data resources and libraries of algorithms in compliance with data protection legislation;}

\textbf{Amendment 28}

\textbf{Proposal for a regulation}
\textbf{Article 5 – paragraph 1 – point b}

\textit{Text proposed by the Commission}

(b) make those capacities accessible to all businesses and public administrations;

\textit{Amendment}

(b) make those capacities accessible to all businesses and public administrations, \textit{including universities and research or innovation centres;}

\textbf{Amendment 29}

\textbf{Proposal for a regulation}
\textbf{Article 5 – paragraph 1 – point c}

\textit{Text proposed by the Commission}

(c) reinforce and network existing artificial intelligence testing and experimentation facilities in Member States;

\textit{Amendment}

(c) reinforce and network existing artificial intelligence testing and experimentation facilities in Member States, \textit{including existing and newly established high performance computing centres;}

\textbf{Amendment 30}

\textbf{Proposal for a regulation}
\textbf{Article 5 – paragraph 1 – point c a (new)}

\textit{Text proposed by the Commission}

(c a) promote the exchange of knowledge, development and large-scale application of artificial intelligence across the Union and reinforce AI industrial applications installed in machines, sensors, robots, automotive, space
Amendment 31

Proposal for a regulation
Article 6 – paragraph 1 – point a

Text proposed by the Commission

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation;

Amendment

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation, especially personal data, including those from existing and newly established high performance computing centres;

Amendment 32

Proposal for a regulation
Article 6 – paragraph 1 – point b

Text proposed by the Commission

(b) support the best use of European knowledge, capacity and skills related to cybersecurity;

Amendment

(b) support the best use of European knowledge, capacity and skills related to cybersecurity, while respecting personal data protection;

Amendment 33

Proposal for a regulation
Article 6 – paragraph 1 – point b a (new)

Text proposed by the Commission

(b a) provide the European Union Agency for Network and Information Security (ENISA) with additional resources to promote awareness campaigns and to increase the capabilities of Member States and businesses;
### Amendment 34

**Proposal for a regulation**  
**Article 6 – paragraph 1 – point d a (new)**

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(d a) support the latest research and innovation in autonomous transport, logistics and traffic management in all transport modes, including the development of 5G networks and secure 5G platforms in order to enable the digital transformation and to assist the deployment of the 5G system across the TEN-T corridors, including ensuring the protection of European industries from economic espionage and cyber-attack with robust and reliable cyber-security solutions;</td>
<td></td>
</tr>
</tbody>
</table>

### Amendment 35

**Proposal for a regulation**  
**Article 6 – paragraph 1 – point d b (new)**

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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</thead>
<tbody>
<tr>
<td>(d b) improve among users, in particular SMEs, micro-enterprises and start-ups, resilience against cyber-attacks by increasing risk awareness and knowledge of basic security processes.</td>
<td></td>
</tr>
</tbody>
</table>

### Amendment 36

**Proposal for a regulation**  
**Article 7 – paragraph 1 – introductory part**

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent</td>
<td></td>
</tr>
<tr>
<td>The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent</td>
<td></td>
</tr>
</tbody>
</table>
pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

Amendment 37

Proposal for a regulation
Article 7 – paragraph 1 – point a

*Text proposed by the Commission*

(a) support the design and delivery of long-term trainings and courses for students, IT professionals and the workforce;

*Amendment*

(a) support the design and delivery of long-term trainings, courses and research for students, educators, IT professionals and the workforce;

Amendment 38

Proposal for a regulation
Article 7 – paragraph 1 – point b

*Text proposed by the Commission*

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce;

*Amendment*

(b) support the design and delivery of short-term and long-term trainings and courses and research for IT professionals, educators, entrepreneurs, leaders of small and medium-sized businesses and the workforce;

Amendment 39

Proposal for a regulation
Article 7 – paragraph 1 – point c

*Text proposed by the Commission*

(c) support on-the-job trainings and traineeships for students, young entrepreneurs and graduates.

*Amendment*

(c) support on-the-job trainings and traineeships for students, including doctoral research students, the workforce young entrepreneurs and graduates,
including their mobility from one Member State to another.

Amendment 40
Proposal for a regulation
Article 7 – paragraph 1 – point c a (new)

Text proposed by the Commission

(c a) support training courses and re-skilling for employees in sectors that will be deeply affected by the digital transformation of the Union’s economy in order to help them adjust to changes in their profession.

Amendment 41
Proposal for a regulation
Article 8 – paragraph 1 – point a

Text proposed by the Commission

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

Amendment

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity, in compliance with the provisions of the General Data Protection Regulation;

Amendment 42
Proposal for a regulation
Article 8 – paragraph 1 – point b

Text proposed by the Commission

(b) deploy, operate and maintain trans-European interoperable Digital Service Infrastructures (including related services) in complementarity with national and

Amendment

(b) deploy, operate and maintain trans-European interoperable high quality and high performance Digital Service Infrastructures (including related services)
regional actions; in complementarity with national and regional actions;

Amendment 43

Proposal for a regulation
Article 8 – paragraph 1 – point e

Text proposed by the Commission

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs;

Amendment

(e) support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs, microenterprises and start-ups;

Amendment 44

Proposal for a regulation
Article 8 – paragraph 1 – point f

Text proposed by the Commission

(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

Amendment

(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering research, innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

Amendment 45

Proposal for a regulation
Article 8 – paragraph 1 – point h

Text proposed by the Commission

(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using distributed ledger

Amendment

(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using distributed ledger
services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications;

services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications while taking note to ensure complementarity and synergy with other Union programmes in projects of common interest;

Amendment 46
Proposal for a regulation
Article 8 – paragraph 1 – point i

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) build up and strengthen the network of Digital Innovation Hubs.</td>
<td>(i) build up, strengthen and promote the network of Digital Innovation Hubs; where possible, the hubs should be built on and cooperate with existing national and European structures.</td>
</tr>
</tbody>
</table>

Amendment 47
Proposal for a regulation
Article 13 – paragraph 1

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Programme is designed to be implemented enabling synergies, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating way, or through the combination of funds including for the joint funding of actions.</td>
<td>1. The Programme is designed to be implemented enabling synergies and complementarity, as further described in Annex III, with other Union funding programmes, in particular through arrangements for complementary funding from EU programmes where management modalities permit; either in sequence, in an alternating way, or through the combination of funds including for the joint funding of actions.</td>
</tr>
</tbody>
</table>

Amendment 48
Proposal for a regulation
Article 13 – paragraph 1 a (new)
1 a. The programme shall aim to unlock any potential links with other Union funding programmes and actions contributing to the development of projects considered to be of common interest, particularly in sectors such as transport, energy and digital. The programme will particularly have synergies with CEF-2 in this regard.

Amendment

Proposal for a regulation
Article 13 – paragraph 2

Text proposed by the Commission

2. Appropriate mechanisms of coordination between relevant authorities and appropriate monitoring tools shall be established to systematically ensure synergies between the Programme and any relevant EU funding instruments. The arrangements shall contribute to avoiding duplications and maximising impact of expenditure.

Amendment

Proposal for a regulation
Article 16 – paragraph 1

Text proposed by the Commission

1. During the first year of the implementation of the Programme, an initial network of Digital Innovation Hubs shall be established.

Amendment

1. During the first year of the implementation of the Programme, an initial network of Digital Innovation Hubs shall be established. Where possible, the network should be built on and cooperate with existing national and European structures.
Amendment 51

Proposal for a regulation
Article 16 – paragraph 2 – point a

Text proposed by the Commission

(a) appropriate competences related to the functions of the Digital Innovation Hubs;

Amendment

(a) appropriate competences related to the functions of the Digital Innovation Hubs; where possible, including experience with managing existing structures;

Amendment 52

Proposal for a regulation
Article 16 – paragraph 3 – introductory part

Text proposed by the Commission

3. The Commission shall adopt a decision on the selection of entities forming the initial network. These entities shall be selected by the Commission from candidate entities designated by Member States on the basis of the criteria mentioned in paragraph 2 and the following additional criteria:

Amendment

3. The Commission, taking utmost account of the recommendation adopted by an advisory group composed of representatives of Member States, shall adopt a decision on the selection of entities forming the initial network, where at least one entity per Member State shall be represented. These entities shall be selected by the Commission from candidate entities designated by Member States on the basis of the criteria mentioned in paragraph 2 and the following additional criteria:

Amendment 53

Proposal for a regulation
Article 20 – paragraph 1 – point b

Text proposed by the Commission

(b) the soundness of the implementation plan proposed;

Amendment

(b) the soundness of the implementation plan proposed along with clear and measurable targets and outcomes;
Amendment 54

Proposal for a regulation
Article 20 – paragraph 1 – point e a (new)

Text proposed by the Commission

Amendment

(e a) where applicable, deployment in sectors with a high multiplication effect, such as digitalised industry and transport or space technologies;

Amendment 55

Proposal for a regulation
Article 20 – paragraph 1 – point g

Text proposed by the Commission

Amendment

(g) where applicable, a balanced geographical distribution across the Union, including the outermost regions;

Amendment 56

Proposal for a regulation
Article 24 – paragraph 1

Text proposed by the Commission

Amendment

1. Measurable indicators to monitor the implementation and progress of the Programme in achieving the general and specific objectives set out in Article 3 are set in the Annex II.

Amendment 57

Proposal for a regulation
Article 24 – paragraph 1 a (new)

Text proposed by the Commission

Amendment

1 a. The Commission shall define a methodology to provide for measurable
indicators for an accurate assessment of the progress towards achieving the general objectives set out in Article 3(1). On the basis of this methodology the Commission shall complement Annex III at the latest by 1st January 2021.

**Amendment 58**

**Proposal for a regulation**  
**Article 24 – paragraph 2**

*Text proposed by the Commission*

2. To ensure effective assessment of progress of the Programme towards the achievement of its objectives, the Commission is empowered to adopt delegated acts in accordance with Article 27 to amend Annex II to review or complement the indicators where considered necessary and to supplement this Regulation with provisions on the establishment of a monitoring and evaluation framework.

*Amendment*

2. To ensure effective assessment of progress of the Programme towards the achievement of its objectives, the Commission is empowered to adopt delegated acts in accordance with Article 27 to amend Annex II to review or complement the *measurable* indicators where considered necessary and to supplement this Regulation with provisions on the establishment of a monitoring and evaluation framework.

**Amendment 59**

**Proposal for a regulation**  
**Article 24 – paragraph 3**

*Text proposed by the Commission*

3. The performance reporting system shall ensure that data for monitoring programme implementation and results are collected efficiently, effectively, and in a timely manner. To that end, proportionate reporting requirements shall be imposed on recipients of Union funds and Member States.

*Amendment*

3. The performance reporting system shall ensure that data for monitoring programme implementation and results are *suitable for an in-depth analysis of the progress achieved and the difficulties encountered and* are collected efficiently, effectively, and in a timely manner. To that end, proportionate reporting requirements shall be imposed on recipients of Union funds and Member States.

**Amendment 60**
Proposal for a regulation
Article 25 – paragraph 1

Text proposed by the Commission

1. Evaluations shall be carried out in a timely manner to feed into the decision-making process.

Amendment

1. Evaluations shall be carried out in a timely manner to feed into the decision-making process. The evaluations shall also provide for a qualitative assessment of the progress towards achieving the general objectives set out in Article 3(1).

Amendment 61

Proposal for a regulation
Annex I – part 1 – paragraph 2 – point 1

Text proposed by the Commission

1. A joint procurement framework for an integrated network of world-class HPC including exascale supercomputing and data infrastructure. It will be accessible on a non-economic basis to public and private users and for publicly funded research purposes.

Amendment

1. A joint procurement framework for an integrated network of world-class HPC including exascale supercomputing and data infrastructure. It will be accessible to all businesses and public administrations, and on a non-economic basis to public and private users and for publicly funded research purposes.

Amendment 62

Proposal for a regulation
Annex I – part 5 – subpart I – point 4

Text proposed by the Commission

4. Transport, energy and environment: Deploy decentralised solutions and infrastructures required for large-scale digital applications such as smart cities or smart rural areas in support of transport, energy and environmental policies.

Amendment

4. Transport, energy and environment: Deploy decentralised solutions and infrastructures required for large-scale digital applications such as smart cities, smart rural areas or outermost regions in support of transport, energy and environmental policies.

Amendment 63

Proposal for a regulation
Annex I – part 5 – subpart I – point 5

Text proposed by the Commission

5. Education and culture: Provide creators and creative industry in Europe with access to latest digital technologies from AI to advanced computing. Exploit the European cultural heritage as a vector to promote cultural diversity, social cohesion and European citizenship. Support the uptake of digital technologies in education.

Amendment

5. Education, culture and the tourism sector: Provide creators and creative industry in Europe and the tourism sector with access to latest digital technologies from AI to advanced computing. Exploit the European cultural heritage and the tourism sector as a vector to promote cultural diversity, social cohesion and European citizenship. Support the uptake of digital technologies in education and the tourism sector.
**PROCEDURE – COMMITTEE ASKED FOR OPINION**

<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Establishing the Digital Europe programme for the period 2021-2027</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Committee responsible</strong></td>
<td>ITRE</td>
</tr>
<tr>
<td>Date announced in plenary</td>
<td>14.6.2018</td>
</tr>
<tr>
<td><strong>Opinion by</strong></td>
<td>TRAN</td>
</tr>
<tr>
<td>Date announced in plenary</td>
<td>5.7.2018</td>
</tr>
<tr>
<td><strong>Rapporteur</strong></td>
<td>Deirdre Clune</td>
</tr>
<tr>
<td>Date appointed</td>
<td>2.7.2018</td>
</tr>
<tr>
<td><strong>Date adopted</strong></td>
<td>15.11.2018</td>
</tr>
<tr>
<td><strong>Result of final vote</strong></td>
<td>+: 45</td>
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<tr>
<td></td>
<td>--: 2</td>
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<td>0: 1</td>
</tr>
<tr>
<td><strong>Members present for the final vote</strong></td>
<td>Daniela Aiuto, Lucy Anderson, Marie-Christine Arnautu, Inés Ayala Sender, Georges Bach, Izaskun Bilbao Barandica, Michael Cramer, Luis de Grandes Pascual, Andor Deli, Karima Delli, Isabella De Monte, Ismail Ertug, Tania González Peñas, Dieter-Lebrecht Koch, Miltiadis Kyrkos, Innocenzo Leontini, Boguslaw Liberadzki, Peter Lundgren, Marian-Jean Marinescu, Georg Mayer, Gesine Meissner, Renaud Muselier, Markus Pieper, Gabrielle Preuß, Christine Revault d’Allonnes Bonnefoy, Dominique Riquet, Massimiliano Salini, Jill Seymour, Claudia Ţapardel, Keith Taylor, Pavel Telička, Wim van de Camp, Kosma Złotowski</td>
</tr>
<tr>
<td><strong>Substitutes present for the final vote</strong></td>
<td>Francisco Assis, Daniel Dalton, Stefan Gehrold, Maria Grapini, Kateřina Konečná, Boleslaw G. Piecha, Inmaculada Rodríguez-Piñero Fernández, Anders Sellström, Henna Virkkunen</td>
</tr>
<tr>
<td><strong>Substitutes under Rule 200(2) present for the final vote</strong></td>
<td>Heinz K. Becker, Edward Czesak, Jiří Maštálka, Theodor Dumitru Stolojan, Richard Sulík</td>
</tr>
</tbody>
</table>
## FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

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<table>
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<tr>
<td><strong>45</strong></td>
<td><strong>+</strong></td>
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<tr>
<td>ALDE</td>
<td>Izaskun Bilbao Barandica, Gesine Meissner, Dominique Riquet, Pavel Telička</td>
</tr>
<tr>
<td>ECR</td>
<td>Edward Czesak, Daniel Dalton, Boleslaw G. Piecha, Richard Sulík, Kosma Złotowski</td>
</tr>
<tr>
<td>EFDD</td>
<td>Daniela Aiuto</td>
</tr>
<tr>
<td>ENF</td>
<td>Georg Mayer</td>
</tr>
<tr>
<td>GUE/NGL</td>
<td>Tania González Peñas, Kateřina Konečná, Jiří Maštálka</td>
</tr>
<tr>
<td>S&amp;D</td>
<td>Lucy Anderson, Francisco Assis, Inés Ayala Sender, Isabella De Monte, Ismail Ertug, Maria Grapini, Miltiadis Kyrkos, Boguslaw Liberadzki, Gabriele Preuß, Christine Revault d'Allonnes Bonnefoy, Inmaculada Rodríguez-Piñero Fernández, Claudia Ţapardel, István Ujhelyi</td>
</tr>
<tr>
<td>VERTS/ALE</td>
<td>Michael Cramer, Karima Delli, Keith Taylor</td>
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<td><strong>2</strong></td>
<td><strong>-</strong></td>
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<tr>
<td>ECR</td>
<td>Peter Lundgren</td>
</tr>
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<td>EFDD</td>
<td>Jill Seymour</td>
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<tr>
<td><strong>1</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td>ENF</td>
<td>Marie-Christine Arnautu</td>
</tr>
</tbody>
</table>

Key to symbols:
+ : in favour
- : against
0 : abstention
OPINION OF THE COMMITTEE ON LEGAL AFFAIRS

for the Committee on Industry Research and Energy


Rapporteur for opinion: Evelyne Gebhardt

SHORT JUSTIFICATION

Internet and new technologies are comprehensively changing our society and our economy. Increasing investment in modern digital infrastructure – like high-performance computing, artificial-intelligence products and services and efficient cybersecurity capacities – combined with investment in advanced digital skills in these new technologies for workers and students is crucial to ensure that citizens, industry, business and public administrations can take full advantage of these developments and of the Digital Single Market.

In order to stimulate innovation, tackle market fragmentation under fair and balanced conditions and achieve consumer confidence, such a substantial investment in infrastructure and digital skills needs to be executed by the European Union, by Member States and by the private sector. This is entirely in line with the European Parliament’s call, in its report “Towards a digital single market act”¹, for a long-term investment strategy in digital infrastructure and skills as well as the support of digitisation of Europe’s industry and public administration.

The new Digital Europe Programme can be a powerful instrument to support this digital transformation. Furthermore, it complements other programmes of the European Union, supports other Union policies and thus creates synergy effects, in particular with:

- the Horizon Europe Programme, supporting research and development of new technologies;
- the European Regional Development Funds (EDRF), supporting inter alia the deployment of digital solutions, including cybersecurity;
- the Connecting Europe Facility, providing infrastructure for broadband networks;

¹ Own initiative report “Towards a digital single market act” (2015/2147(INI)
• and the Single Market programme, supporting inter alia product safety in relation to
digital economy, cybersecurity and artificial intelligence.

The rapporteur welcomes the proposal of the new Digital Europe Programme and suggests to
maintain the total budget of the Programme of 8.192 billion in constant prices (i.e. 9.194
billion in current prices) as proposed by the Commission, in accordance with the agreement of
the European Parliament based on its resolution of 14 March 2018\(^1\). Nevertheless, the
rapporteur calls on the Member States and the private sector to make the financial
contribution needed to achieve the Programme’s objectives.

Furthermore, the rapporteur welcomes the integration of existing and new Digital Innovation
Hubs to implement the Programme. Digital Innovation Hubs will support the digital
transformation of European industry, in particular SMEs, and of public administration and
diffuse digital capacities on a local level. Therefore, the rapporteur suggests increasing the
responsibilities of the Digital Innovation, clarifying that Hubs should be allowed to receive
other public or private contributions and own revenues created by the Digital Innovations
Hubs. In addition, Digital Innovation Hubs should be free to define their internal organisation,
their composition, their work programme and working methods.

The rapporteur aims to uphold important values of the Programme, in particular the necessity
for its contribution to social equality including persons with disabilities and, in view of their
disproportionate underrepresentation in ICT, the principle of gender equality and women’s
rights. She also stresses, that the development of robotics and Artificial Intelligence needs
focus on complementing human capabilities and not on replacing them as set out in the
European Parliament’s report for civil law rules on robotics and that humans need to have
control over intelligent machines at all times.

In order to avoid significant investment gaps in other new technologies covered by the
Horizon Europe Programme but not the Digital Europe Programme, it should be made clear
that those other new technologies can attract funding under this Programme provided they are
part of a comprehensive and related solution with the technologies that are covered under Art.
4 to 8.

**AMENDMENTS**

The Committee on Legal Affairs calls on the Committee on Industry, Research and Energy, as
the committee responsible, to take into account the following amendments:

**Amendment 1**

**Proposal for a regulation**

**Recital 2 a (new)**

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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<tbody>
<tr>
<td>Europe should compete with other</td>
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\(^1\) European Parliament resolution of 14 March 2018 on the next MFF: Preparing the Parliament’s position on the
MFF post-2020 reached with MFF 2021-2027
world powers for leadership of the digital revolution, and levels of investment in digital capacity, in both the EU budget and national and regional budgets, should increase steadily.

Amendment 2

Proposal for a regulation
Recital 3

Text proposed by the Commission

(3) In accordance with the Financial Regulation, Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council, Council Regulation (Euratom, EC) No 2988/95, Council Regulation (Euratom, EC) No 2185/96 and Regulation (EU) 2017/1939, the financial interests of the Union are to be protected through proportionate measures, including the prevention, detection, correction and investigation of irregularities including fraud, the recovery of funds lost, wrongly paid or incorrectly used and, where appropriate, the imposition of administrative sanctions. In particular, in accordance with the provisions and procedures laid down in Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council and Regulation (Euratom, EC) No 2185/96, the European Anti-Fraud Office (OLAF) may carry out administrative investigations, including on-the-spot checks and inspections, with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union. In accordance with Regulation (EU) 2017/1939, the European Public Prosecutor’s Office (EPPO) may investigate and prosecute fraud and other criminal offences affecting the financial interests of the Union, as provided for in Directive (EU) 2017/1371 of the European Parliament and of the Council. In

Amendment

(3) In accordance with the Financial Regulation, Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council, Council Regulation (Euratom, EC) No 2988/95, Council Regulation (Euratom, EC) No 2185/96 and Regulation (EU) 2017/1939, the financial interests of the Union are to be protected through proportionate measures, including the prevention, detection, correction and investigation of irregularities including fraud, the recovery of funds lost, wrongly paid or incorrectly used and, where appropriate, the imposition of administrative sanctions. In particular, in accordance with the provisions and procedures laid down in Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council and Regulation (Euratom, EC) No 2185/96, the European Anti-Fraud Office (OLAF) may carry out administrative investigations, including on-the-spot checks and inspections, with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union. In accordance with Regulation (EU) 2017/1939, the European Public Prosecutor’s Office (EPPO) is to investigate and prosecute fraud and other criminal offences affecting the financial interests of the Union, as provided for in Directive (EU) 2017/1371 of the European Parliament and of the Council.
accordance with the Financial Regulation, any person or entity receiving Union funds is to fully cooperate in the protection of the Union’s financial interests, to grant the necessary rights and access to the Commission, OLAF, the EPPO and the European Court of Auditors (ECA) and to ensure that any third parties involved in the implementation of the Union funds grant equivalent rights.


Amendment 3

Proposal for a regulation
Recital 5 a (new)
Text proposed by the Commission

(5 a) The Programme should ensure utmost transparency, accountability and democratic scrutiny of innovative financial instruments and mechanisms that involve the Union budget, especially as regards their contribution, both as regards initial expectations and end results made towards achieving Union objectives.

Amendment 4
Proposal for a regulation
Recital 6

Text proposed by the Commission

(6) The Tallinn Digital Summit\textsuperscript{55} of September 2017 and the Conclusions of the European Council\textsuperscript{56} of 19 October 2017 indicated the need for Europe to invest in digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires collectively tackling some of the challenges posed by the digital transformation and reviewing policies affected by the digital transformation.

Amendment

(6) The Tallinn Digital Summit\textsuperscript{55} of September 2017 and the Conclusions of the European Council\textsuperscript{56} of 19 October 2017 indicated the need for Europe to invest in consolidating EU digital capacity with the aim of digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. \textit{At Tallinn, however, it became clear that a powerful digital economy can be achieved under the following main pillars: Cybersecurity and artificial intelligence, accompanied by a world class infrastructure that includes high performance computing, digital skills, and the digital transformation of the public sector.} The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires a collective and interconnected approach to tackling some of the challenges posed by the digital transformation and reviewing policies affected by the digital transformation, as
As securing significant private sector funds and contributions from the Member States.

Amendment 5
Proposal for a regulation
Recital 6 a (new)

Text proposed by the Commission

(6 a) Among these challenges it must be considered as of the greatest importance to favour and stimulate an inclusive digital transformation in terms of gender, generational and regional. Measures aimed at improving the training of workers in digital knowledge and preventing the increase of wage polarisation and inequality are very important.

Amendment 6
Proposal for a regulation
Recital 7

Text proposed by the Commission

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as artificial intelligence and distributed ledgers technologies (e.g. blockchain), while at the same time ensuring a high level of data protection, digital rights and ethical standards. The European Council invited the Commission to put forward a European approach to

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as artificial intelligence and distributed ledger technologies (e.g. blockchain), while at the same time ensuring a high level of protection of intellectual property, data and digital rights, as well as liability-related ethical and legal issues. It is of crucial
artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry. 

importance to ensure that the EU legal framework responds adequately to those challenges. The European Council invited the Commission to put forward a European approach to artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry.

Amendment 7
Proposal for a regulation
Recital 8

*Text proposed by the Commission*

(8) The Commission’s Communication on ‘A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020’ outlines among the options for the future financial framework a programme for Europe’s digital transformations to deliver ‘strong progress towards smart growth in areas such as high quality data infrastructure, connectivity and cybersecurity’. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It would reinforce the competitive position of industry and businesses in Europe across the digitised economy and would have a significant impact on filling the skills gap across the Union.

*Amendment*

(8) The Commission’s Communication on ‘A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020’ outlines among the options for the future financial framework a programme for Europe’s digital transformations to deliver ‘strong progress towards smart growth in areas such as high quality data infrastructure, connectivity, cybersecurity’, which would facilitate the provision of new, efficient and reliable services in sectors such as e-health, e-government or mobility. It would seek to secure European leadership in supercomputing, next generation internet, artificial intelligence, robotics and big data. It would reinforce the competitive position of industry and businesses in Europe across the digitised economy and would have a significant impact on filling the skills gap across the Union.


Amendment 8

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Proposal for a regulation
Recital 10

Text proposed by the Commission

(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment

(10) The general objective of the Programme should be to **promote, consolidate and** support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses, **public administrations** and **all** citizens all over the Union. The Programme should **support a fair digital transition and uphold the common values of the European Union, including the right to education, the protection of workers’ rights, guarantee fair competition, promote equality and ensure that digitation contributes to rising social and labour standards, and promote prosperity for all European citizens, democracy and security**. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies, **thereby creating a prosperous data-based inclusive economy promoting innovative projects and ensuring the creation of real added value**.

Amendment 9
Proposal for a regulation
Recital 11

Text proposed by the Commission

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A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe. A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market.

As indicated in the Communication on Digitising European Industry (COM(2016) 180 final)

Amendment 10
Proposal for a regulation
Recital 11 a (new)

Text proposed by the Commission

(11a) Digital Innovation Hubs should be allowed to receive contributions from Member States, participating third countries or public authorities within them, contributions from international bodies or institutions, contributions from
the private sector, in particular from members, shareholders or partners of the Digital Innovation Hubs, revenues generated by the Digital Innovation Hubs’ own assets and activities, bequests, donations and contributions from individuals or funding in the form of grants including from the Programme and other Union programmes.

Amendment 11
Proposal for a regulation
Recital 14

*Text proposed by the Commission*

(14) The Programme’s actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

*Amendment*

(14) The Programme’s actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value. *Multilateral coordinated action should capitalise on synergies by linking funding with framework conditions, safeguard interoperability, and avoid a major geographical digital divide, resulting in strategic advantages for European businesses and public services for citizens, enabling them to achieve breakthroughs more effectively in solving societal challenges, thereby helping to achieve the general objective of improving quality of life in every sector and throughout the Union.*

Amendment 12
Proposal for a regulation
Recital 15

*Text proposed by the Commission*

(15) To achieve maximum flexibility throughout the lifetime of the programme and develop synergies between its

*Amendment*

(15) To achieve maximum flexibility throughout the lifetime of the programme and develop synergies between its
components, each of the specific objectives may be implemented through all instruments available under the Financial Regulation. The delivery mechanisms to be used are direct management and indirect management when Union financing should be combined with other sources of financing or when execution requires the setup of commonly governed structures.

Amendment 13
Proposal for a regulation
Recital 16

Text proposed by the Commission

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably micro, small and medium-sized enterprises.

Amendment 14
Proposal for a regulation
Recital 17 a (new)

Text proposed by the Commission

(17a) The programme provides a good opportunity for other Member States to sign that declaration and stresses the possibility for all other Member States to enter the EuroHPC Declaration.
Amendment 15

Proposal for a regulation
Recital 18

*Text proposed by the Commission*

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, academia and public administrations.


Amendment 16

Proposal for a regulation
Recital 19 a (new)

*Text proposed by the Commission*

(19a) Products and services based on artificial intelligence should be user-friendly, legally compliant by default and provide consumers with more choice and
more information, in particular on the quality of products or services.

Amendment 17
Proposal for a regulation
Recital 19 b (new)

Text proposed by the Commission

(19b) In its report for civil law rules on robotics\textsuperscript{1a} the European Parliament stresses that the development of robotics and artificial intelligence should focus on complementing human capabilities and not on replacing them. The development of robotics and artificial intelligence should also guarantee that humans have control over intelligent machines at all times.

\textsuperscript{1a} European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL))

Amendment 18
Proposal for a regulation
Recital 20 a (new)

Text proposed by the Commission

(20 a) In its resolution of 12 September 2018 on autonomous weapon systems\textsuperscript{1a}, the European Parliament reaffirmed the Union’s ambition to be a global actor for peace, called for the expansion of its role in global disarmament and non-proliferation efforts and urged the Vice-President of the Commission / High-Representative of Foreign Affairs and Security Policy, the Member States and the Council to work towards the start of international negotiations on a legally binding
instrument prohibiting lethal autonomous weapon systems. Lethal autonomous weapons are mostly based on Artificial Intelligence. Consequently, any financial contribution by the Union under Specific Objective 2 of the Programme must not be used for military purposes.

Amendment 19
Proposal for a regulation
Recital 21

Text proposed by the Commission
(21) In its resolution of 1 June 2017 on digitising European industry the European Parliament highlighted the importance of a common European cybersecurity approach, recognising the need to raise awareness and considered cyber-resilience as a crucial responsibility for business leaders and national and European industrial security policymakers.

Amendment
(21) In its resolution of 1 June 2017 on digitising European industry the European Parliament highlighted, in the context of potential vulnerabilities as regards cyberattacks, sabotage, manipulation of date or industrial espionage, the importance of a common European cybersecurity approach, recognising the need to raise awareness on enhancing cybersecurity and considered cyber-resilience as a crucial responsibility for business leaders and national and European industrial security policymakers and the need to make cybersecurity requirements mandatory for public procurement with regard to IT equipment and IoT products.

Proposal for a regulation
Recital 21 a (new)

Text proposed by the Commission

(21a) The resolution has also highlighted the need to guarantee safety and cybersecurity standards according to the available state-of-the-art technology and the principles of ‘security by design’ and ‘security by default’ as core design parameters.

Amendment 21
Proposal for a regulation
Recital 21 b (new)

Text proposed by the Commission

(21 b) Data and IT infrastructure security and trust in the digital environment are essential for unlocking the full potential of growth and innovation connected with the digitisation of industry as well as public administrations for the benefit of citizens, workers, consumers and businesses, including SMEs and start-ups.

Amendment 22
Proposal for a regulation
Recital 23 a (new)

Text proposed by the Commission

(23 a) As a matter of principle, cybersecurity solutions should contain safety and, according to the available state-of-the-art technology and the principles of ‘security by design’ and ‘security by default’, cybersecurity standards as core design parameters.

Amendment 23
Proposal for a regulation
Recital 25

Text proposed by the Commission

(25) The European Council in its conclusions of 19 October 2017 stressed that to successfully build a Digital Europe, the Union needs in particular labour markets, training and education systems fit for the digital age and that there is a need to invest in digital skills, to empower and enable all Europeans;

Amendment

(25) The European Council in its conclusions of 19 October 2017 stressed that to successfully build a Digital Europe, the Union needs in particular labour markets, training and education systems fit for the digital age and that there is a need to invest in digital skills, and digital education programmes, to empower and enable all Europeans;

Amendment 24
Proposal for a regulation
Recital 27

Text proposed by the Commission

(27) In its resolution of 1 June 2017 on digitising European industry\textsuperscript{67} the European Parliament stated that education, training and lifelong learning are the cornerstone of social cohesion in a digital society.

Amendment

(27) In its resolution of 1 June 2017 on digitising European industry\textsuperscript{67} the European Parliament stated that education, training and lifelong learning are the cornerstone of social cohesion in a digital society. They are of utmost importance for fighting digital exclusion and for promoting inclusiveness and the competitiveness of European regions.


Amendment 25
Proposal for a regulation
Recital 27 a (new)

Text proposed by the Commission

(27a) The European Parliament also
noted the disproportionate gender gap in terms of employment and training in the ICT sector and the decrease of women taking up ICT related higher education, with negative implications for equality and in the labour market. Therefore, the Programme's objective regarding advanced digital skills should pay particular attention to women and girls and promote their career in the ICT area of advanced digital skills. In addition, the European Parliament noted its concern about the impacts of digitisation on working conditions and changes in the labour market. The Parliament called for safe and dignified working conditions and adequate training to improve the digital skills of the workforce in particular and society as a whole.

Amendment 26

Proposal for a regulation

Recital 28

Text proposed by the Commission

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. Moreover, in view of the growing national and regional inequalities the Programme should contribute to reduce the digital divide between countries and regions. The actions supported by this programme are
complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment 27
Proposal for a regulation
Recital 29

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe.

Amendment 28
Proposal for a regulation
Recital 32

(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry, business and research as well as and on citizens in general by making their interactions with public authorities including judiciaries faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe.

(32) The modernisation of European public administrations is one of the key priorities for successful implementation of the Digital Single Market Strategy. The mid-term evaluation of the Strategy highlighted the need to strengthen the transformation of public administrations and to ensure citizens have easy, trusted, and seamless access to public services without being charged disproportionate amounts.
Amendment 29

Proposal for a regulation
Recital 33

Text proposed by the Commission

(33) The Annual Growth Survey published by the Commission in 2017\(^{69}\) shows that the quality of European public administrations has a direct impact on the economic environment and is therefore crucial to stimulating productivity, competitiveness, economic cooperation, growth and employment. In particular, efficient and transparent public administration and effective justice systems are necessary to support economic growth and deliver high quality services for firms and citizens.

\(^{69}\) COM(2016) 725 final

Amendment

(33) The Annual Growth Survey published by the Commission in 2017\(^{69}\) shows that the quality of European public administrations has a direct impact on the economic environment and is therefore crucial to stimulating productivity, competitiveness, economic cooperation, sustainable growth, employment and high-quality work. In particular, efficient and transparent public administration and effective justice systems are necessary to support economic growth and deliver high quality services for firms and citizens.

\(^{69}\) COM(2016) 725 final

Amendment 30

Proposal for a regulation
Recital 33 a (new)

Text proposed by the Commission

(33 a) Promoting digital infrastructure in the most disadvantaged areas is key to promoting inclusion. The reduction of the 'digital divide' in terms of use and access to infrastructure and digital services between administrations, individuals, households, businesses and geographical areas should be a central objective. The digital divide prevents administrations, especially local authorities, from taking full advantage of the benefits that digital technology can offer. This can continue to contribute to increasing income polarisation and stimulate long-term unbalanced economic development.
Amendment 31

Proposal for a regulation
Recital 34 a (new)

Text proposed by the Commission

(34 a) On 6 October 2017, Council of the EU in Tallinn stated that the European digital strategy should be based on collaboration and interoperability, including the use of open licensing policies and open standards. The programme should, therefore, demand or incentivise open source solutions in order to allow reuse, increase trust and secure transparency. This will have a positive impact on the sustainability of funded projects.

Amendment 32

Proposal for a regulation
Recital 38

Text proposed by the Commission

(38) The European Economic and Social Committee welcomed the communication on "Digitising European Industry" and considered it, together with accompanying documents, as "the first step in a vast European work programme to be carried out in close mutual cooperation between all interested public and private parties". The Economic and Social Committee also noted "that it remains to acknowledge most of the repercussions that digitalisation has for employment purposes, which, therefore, are subject to poor treatment in the corresponding policies". Likewise, the aforementioned communication pointed out the need to improve collective bargaining and the participation of workers in order to counteract the increase in income.
inequalities caused by digitisation.

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72a *Opinion of the European Economic and Social Committee on "The effects of digitalisation on the services sector and employment in relation to industrial change" (2016/C 013/24).*

Amendment 33
Proposal for a regulation
Recital 40

*Text proposed by the Commission*

(40) The General Data Protection Regulation (GDPR), applicable from May 2018 onwards, by providing for a single set of rules directly applicable in the Member States legal orders, will guarantee the free flow of personal data between EU Member States and reinforce trust and security of the individuals, two indispensable elements for a real Digital Single Market. The actions undertaken under this Programme, when they involve the processing of personal data, should therefore support the application of the GDPR, *for instance in the field of artificial intelligence and block chain technology.*

*Amendment*

(40) The General Data Protection Regulation (GDPR), applicable from May 2018 onwards, by providing for a single set of rules directly applicable in the Member States legal orders, will guarantee the free flow of personal data between EU Member States and reinforce trust and security of the individuals, two indispensable elements for a real Digital Single Market. The actions undertaken under this Programme, when they involve the processing of personal data, should therefore support the application of the GDPR *in all new technologies.* Moreover, product and services should be developed and used in full respect of other EU data protection rules, considering the principles of fairness, transparency, purpose limitation, data minimisation, accountability and privacy by design and by default.

Amendment 34
Proposal for a regulation
Recital 42 a (new)

*Text proposed by the Commission*

(42 a) *Bodies implementing the*
The programme should respect the principle of gender equality between women and men as laid down in Articles 2 and 3 of the Treaty on European Union and Article 8 TFEU, as well as in Article 23 of the Charter of Fundamental Rights of the European Union.

Amendment 35
Proposal for a regulation
Recital 43

Text proposed by the Commission

(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme will contribute to mainstream climate actions and lead to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives. Relevant actions will be identified during the Programme’s preparation and implementation, and reassessed in the context of the relevant evaluations and review processes.

Amendment

(43) Reflecting the importance of tackling climate change in line with the Union’s commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Programme shall contribute to mainstream climate actions and lead to the achievement of an overall target of 25% of the EU budget expenditures supporting climate objectives. Relevant actions shall be identified during the Programme’s preparation and implementation by way of optimising output of climate investment, and reassessed in the context of the relevant evaluations and review processes.

74 COM(2018) 321 final, page 1

Amendment 36
Proposal for a regulation
Recital 44 a (new)

Text proposed by the Commission

(44 a) In order to be able to exercise its function of political control and to ensure transparency and accountability, as stipulated in the Treaties, the Commission should duly and regularly inform the European Parliament of all relevant
aspects of the implementation of the Programme, including the work programmes, the execution and possible need for adjustment of the budgetary breakdown, and the development of the performance indicators in terms of objectives pursued and expected results.

Amendment 37

Proposal for a regulation
Article 3 – paragraph 1

*Text proposed by the Commission*

1 The Programme has the following general objective: to support the digital transformation of the European economy and society and bring its benefits to European citizens and businesses. The Programme will:

(a) reinforce Europe's capacities in key digital technology areas through large-scale deployment,

(b) widen their diffusion and uptake in areas of public interest and the private sector.

*Amendment*

1 The Programme has the following general objective: to support the digital transformation of the European economy and society and bring its benefits to European citizens, *public administrations*, *workers* and businesses. The Programme will:

(a) reinforce *and develop* Europe's capacities in key digital technology areas through large-scale deployment *and use*,

(b) widen their diffusion and uptake in areas of public interest and the private sector.

(ba) *support the uptake of advanced digital skills.*

(bb) *reinforce Europe’s competiveness and strengthen its labour-market in areas according to the objectives in Article 4 to 8 of the Programme with particular regard to a gender perspective and an inclusive and socially sustainable use of digitisation.*

Amendment 38

Proposal for a regulation
Article 4

*Text proposed by the Commission*

Amendment
Article 4
High Performance Computing

The financial intervention by the Union under Specific Objective 1. High Performance Computing shall pursue the following operational objectives:

(a) deploy, coordinate at the Union level and operate an integrated world-class exascale\(^{76}\) supercomputing and data infrastructure in the Union that shall be accessible on a non-commercial basis to public and private users and for publicly funded research purposes;

(b) deploy ready to use/operational technology resulting from research and innovation to build an integrated Union high performance computing ecosystem, covering all scientific and industrial value chain segments, including hardware, software, applications, services, interconnections and digital skills;

(c) deploy and operate a post-exascale\(^{77}\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures for computing science.

\(^{76}\) Billions of billions of floating per second

\(^{77}\) A thousand times faster than exascale

Amendment 39
Proposal for a regulation
Article 5

Text proposed by the Commission

Amendment

Article 5

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Artificial Intelligence

The financial intervention by the Union under Specific Objective 2. Artificial Intelligence shall pursue the following operational objectives:

(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in compliance with data protection legislation;

(b) *make* those capacities accessible to all businesses and public administrations;

(c) reinforce and network existing artificial intelligence testing and experimentation facilities in Member States;

Any financial intervention by the Union under Specific Objective 2 of the Programme shall comply with ethical principles, applicable national, Union and international law and must not be used for military purposes.

Amendment 40

Proposal for a regulation

**Article 6**

*Text proposed by the Commission*

Article 6

Cybersecurity and Trust

The financial intervention by the Union under Specific Objective 3. Cybersecurity and Trust shall pursue the following operational objectives:

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation;

**Amendment**

Article 6

Cybersecurity and Trust

The financial intervention by the Union under Specific Objective 3. Cybersecurity and Trust shall pursue the following operational objectives:

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in order to achieve a common high level of cybersecurity at
Union level, in full compliance with data protection legislation and the fundamental rights;

(b) support the best use of European knowledge, capacity and skills related to cybersecurity;

(c) ensure a wide deployment of the latest cybersecurity solutions across the economy;

(d) reinforce capabilities within Member States and private sector to help them meet Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union78.

(d) reinforce capabilities within Member States and private sector to help them meet Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union78.

(da) support the mission, objectives and tasks of the European Cybersecurity Industrial, Technology and Research Competence Centre78a in so far as the objectives under Article 3 of this Programme are concerned.

(db) support the best use and the increase of European knowledge, capacity and skills related to cybersecurity;

78a Proposal for a regulation establishing the European Cybersecurity Industrial, Technology and Research Competence Centre and the Network of National Coordination Centres of 12 September 2018, 2018/0328(COD)

Amendment 41

Proposal for a regulation
Article 7

Text proposed by the Commission

Amendment

Article 7

Advanced Digital Skills

Advanced Digital Skills
The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, distributed ledger technologies, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

(a) support the design and delivery of long-term trainings and courses for students, IT professionals and the workforce;

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce;

(c) support on-the-job trainings and traineeships for students, young entrepreneurs and graduates.

Amendment 42
Proposal for a regulation
Article 8

Text proposed by the Commission

Article 8
Deployment, best use of digital capacities and Interoperability
The financial intervention by the Union under Specific Objective 5. Deployment, best use of digital capacities and Interoperability shall achieve the following

Amendment

Article 8
Deployment, best use of digital capacities and Interoperability
The financial intervention by the Union under Specific Objective 5. Deployment, best use of digital capacities and Interoperability shall achieve the following

operational objectives:

(a) Ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

(b) Deploy, operate and maintain state-of-the-art trans-European interoperable Digital Service Infrastructures (including related services) in complementarity with national and regional actions;

(c) Facilitate the development, update and use of solutions and frameworks by European public administrations, businesses and citizens, including the re-use of interoperability solutions and frameworks;

(d) Offer to public administrations access to testing and piloting of digital technologies, including their cross-border use;

(e) Support the uptake of advanced digital and related technologies, including in particular high performance computing, artificial intelligence, cybersecurity and future emerging technologies by the Union industry, notably SMEs;

(f) Support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

(g) Ensure a continuous capacity at the Union level to observe, analyse and adapt to fast-evolving digital trends, as well as sharing and mainstreaming best practices;
(h) support cooperation towards achieving a European ecosystem for trusted infrastructures using distributed ledger services and applications, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications;

(i) build up and strengthen the network of Digital Innovation Hubs.

Amendment 43
Proposal for a regulation
Article 11 – paragraph 1 a (new)

\textit{Text proposed by the Commission}

1 a. Planning, development and procurement in the programme shall be done with a view to enhance European Union competitiveness in medium and long term. Priority shall be given to actions that increase the strategic potential and limit the dependence on suppliers and products from outside the European Union.

Amendment 44
Proposal for a regulation
Article 12 – paragraph 1

\textit{Text proposed by the Commission}

1. Actions carried out under the Programme shall comply with the applicable security rules and in particular the protection of the classified information against unauthorised disclosure, including compliance with any relevant national and Union law. In case of actions carried out outside the Union, it is necessary that, in
addition to the compliance with above requirements, a security agreement must have been concluded between the Union and the third country in which the activity is conducted.

outside the Union, it is necessary that, in addition to the compliance with above requirements, a security agreement must have been concluded between the Union and the third country in which the activity is conducted.

Amendment 45

Proposal for a regulation
Article 16

Text proposed by the Commission

Article 16
Digital Innovation Hubs

1. During the first year of the implementation of the Programme, an initial network of Digital Innovation Hubs shall be established.

2. For the purpose of the establishment of the network mentioned in paragraph 1, each Member State shall designate candidate entities through an open and competitive process, on the basis of the following criteria:

   (a) appropriate competences related to the functions of the Digital Innovation Hubs;

   (b) appropriate management capacity, staff and infrastructure;

   (c) operational and legal means to apply the administrative, contractual and financial management rules laid down at Union level;

   (d) appropriate financial guarantees, issued preferably by a public authority, corresponding to the level of Union funds it will be called upon to manage.

Member States shall, when designating their candidate entities, take into account principles of diversity, accessibility and
3. The Commission shall adopt a decision on the selection of entities forming the initial network. These entities shall be selected by the Commission from candidate entities designated by Member States on the basis of the criteria mentioned in paragraph 2 and the following additional criteria:

(a) the budget available for the financing of the initial network;

(b) the need to ensure by the initial network a coverage of the needs of industry and areas of public interest and a comprehensive and balanced geographical coverage.

4. Additional Digital Innovation Hubs shall be selected on the basis of an open and competitive process, in such a way to ensure the widest geographical coverage across Europe. The number of entities of the network shall be proportional to the population of a given Member State and there shall be at least one Digital Innovation Hub per Member State. To address the specific constraints faced by the EU outermost regions, specific entities may be nominated to cover their needs.

4.a Digital Innovation Hubs shall have substantial overall autonomy to define their internal organisation and composition, as well as their precise work programme and working methods. In particular, Digital Innovation Hubs shall aim to be open to new partners to join Digital Innovation Hubs whenever these members add value to the partnerships and function in an open and transparent way.

5. The Digital Innovation Hubs may receive funding in the form of grants.
6. The Digital Innovation Hubs which receive funding shall be involved in the implementation of the Programme to:

(a) provide digital transformation services - including testing and experimentation facilities - targeted towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services;

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

(d) provide financial support to third parties, under the specific objective 4, Advanced Digital Skills.

Digital Innovation Hub, revenues generated by the Digital Innovation Hubs own assets and activities, bequest, donations and contributions from individuals or funding in the form of grants including from this Programme and other EU programmes.

6. The Digital Innovation Hubs shall be involved in the implementation of the Programme to:

(a) provide digital transformation services and technological expertise - including testing and experimentation facilities - targeted towards SMEs and midcaps, also in sectors that are slow in the uptake of digital and related technologies;

(b) transfer expertise and know-how between regions, in particular by networking SMEs and midcaps established in one region with Digital Innovation Hubs established in other regions which are best suited to provide relevant services and offer coaching consultancy;

(c) provide thematic services, including services related to artificial intelligence, high performance computing and cybersecurity and trust to the administrations, public sector organisations, SMEs and midcaps. Individual Digital Innovation Hubs may specialise in specific thematic services and do not need to provide all thematic services mentioned in this paragraph;

(d) provide financial support to third parties, under the specific objective 4, Advanced Digital Skills.

6a. The European Commission shall, in close co-operation with the Member States, organise continuous monitoring and evaluation of the output, results and impacts of Digital Innovation Hubs.
receiving EU funds.

Amendment 46

Proposal for a regulation
Article 17 – paragraph 2 a (new)

Text proposed by the Commission

2 a. Actions that pursue objectives relating to other new technologies covered by the Horizon Europe Programme, namely robotics, Big Data & Key Digital Technologies, shall be eligible for funding, provided that those objectives relate to the specific objectives covered under Articles 4 to 8 and constitute a comprehensive and related solution in a specific project.

Justification

In order to avoid significant investment gaps in other technologies, exclude comprehensive solutions from the Programme or complicate its distinction, other new technologies should also be part of the Programme provided they constitute a comprehensive and related solution with the new technologies according to Art. 4 to 8.

Amendment 47

Proposal for a regulation
Article 18 – paragraph 2 – point a – introductory part

Text proposed by the Commission

(a) legal entities established in:

Amendment

(a) legal entities established and, if applicable, liable to pay corporate tax in:

Amendment 48

Proposal for a regulation
Article 20 – paragraph 1 – point d a (new)

Text proposed by the Commission

(d a) the impact on the climate and the environment;

Amendment


Amendment 49

Proposal for a regulation
Article 20 – paragraph 1 – point e

Text proposed by the Commission

(e) where applicable, the economic, social, climate and environmental impact, and accessibility;

Amendment

(e) where applicable, the economic, social, climate and environmental impact, gender balance opportunities and accessibility;

Amendment 50

Proposal for a regulation
Article 20 – paragraph 1 – point h a (new)

Text proposed by the Commission

(h a) where applicable, the presence of a plan to create sustainable high-quality employment in the Union or a participating country.

Amendment

(h a) where applicable, the presence of a plan to create sustainable high-quality employment in the Union or a participating country.

Amendment 51

Proposal for a regulation
Article 22 – paragraph 2 a (new)

Text proposed by the Commission

2 a. Where an action has already been awarded or has received contributions from another Union programme or support from a Union fund, that contribution or support shall be listed in the application for a contribution under the Programme.

Amendment

2 a. Where an action has already been awarded or has received contributions from another Union programme or support from a Union fund, that contribution or support shall be listed in the application for a contribution under the Programme.
2. The interim evaluation of the Programme shall be performed once there is sufficient information available about the implementation of the Programme, but no later than four years after the start of the implementation of the Programme.

Amendment 53

Proposal for a regulation
Article 25 – paragraph 3

Text proposed by the Commission

3. At the end of the implementation of the Programme, but no later than four years after the end of the period specified in Article [1], a final evaluation of the Programme shall be carried out by the Commission.

Amendment

3. At the end of the implementation of the Programme, but no later than two years after the end of the period specified in Article [1], a final evaluation of the Programme shall be carried out by the Commission.

Amendment 54

Proposal for a regulation
Article 25 – paragraph 5

Text proposed by the Commission

5. The Commission shall communicate the conclusions of the evaluations accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

Amendment

5. The Commission shall communicate the conclusions of the evaluations accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. In particular, the Commission shall submit its mid-term evaluation for consideration by the European Parliament.
Amendment 55

Proposal for a regulation
Article 26 – paragraph 4

Text proposed by the Commission

4. As part of the control system, the audit strategy may be based on the financial audit of a representative sample of expenditure. That representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

Amendment

4. As part of the control system, the audit strategy shall be based on the financial audit of at least a representative sample of expenditure. That representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

Amendment 56

Proposal for a regulation
Annex I – part 2 – paragraph 2 – point 1

Text proposed by the Commission

1. Creation of Common European Data spaces that aggregate public information across Europe and become a data input source for AI solutions. The spaces would also be open to public and private sector. For increased usage, data within a space should be made interoperable as much as possible, both in the interactions between public and private sectors, within sectors and across sectors (semantic interoperability).

Amendment

1. Creation of Common European Data spaces that aggregate public information across Europe and become a data input source for AI solutions. The spaces would also be open to public and private sector. For increased usage, data within a space should be made interoperable as much as possible through use of open formats and open standards, both in the interactions between public and private sectors, within sectors and across sectors (semantic interoperability).

Amendment 57

Proposal for a regulation
Annex I – part 2 – paragraph 2 – point 2

Text proposed by the Commission

2. Development of common European libraries of algorithms that would be accessible to all. Companies and public sector would be able to identify and acquire whichever solution would work

Amendment

2. Development of common European libraries of algorithms that are open source and would be accessible to all. Companies and public sector would be able to identify and acquire whichever solution would
Amendment 58

Proposal for a regulation
Annex I – part 2 – paragraph 2 – point 3

3. Co-investment with Member States in world class reference sites for experimentation and testing in real setting focusing on the applications of AI in essential sectors such as health, earth/environment monitoring, mobility, security, manufacturing or finance, as well as in other areas of public interest. The sites should be open to all actors across Europe and connected to the Network of Digital Innovation Hubs. They should be equipped with large computing and data handling facilities as well as latest AI technologies including emerging areas such as ethics, neuromorphic computing, deep learning and robotics.

Amendment 59

Proposal for a regulation
Annex I – part 1 – paragraph 2 – point 6

6. The deployment of ready to use/operational technology: supercomputing as a service resulting from R&I to build an integrated European HPC ecosystem, covering all scientific and industrial value chain segments (hardware, software, applications, services, interconnections and advanced digital skills).

Amendment

6. The deployment of ready to use/operational technology: supercomputing as a service resulting from R&I, in particular new technologies that have previously benefitted or that currently benefit from Union funding, to build an integrated European HPC ecosystem, covering all scientific and industrial value chain segments (hardware, software, applications, services, interconnections and advanced digital skills).
Amendment 60
Proposal for a regulation
Annex I – part 4 – paragraph 4

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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<tbody>
<tr>
<td>All interventions will be designed and implemented primarily through the Digital Innovation Hubs, as defined in Article 15.</td>
<td>All interventions will be designed and implemented primarily through the Digital Innovation Hubs, as defined in Article 16.</td>
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Amendment 61
Proposal for a regulation
Annex I – part 5 – subpart I – point 2 – point 2.1

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<thead>
<tr>
<th>Text proposed by the Commission</th>
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<tr>
<td>2.1. Ensure that EU citizens can access, share, use, and manage their personal health data securely across borders irrespective of their location or the location of the data. Complete the eHealth Digital Service Infrastructure and extend it by new digital services, support deployment of the European exchange format for electronic health records.</td>
<td>2.1. Ensure that EU citizens can access, share, use, and manage their personal health data securely and in a way that guarantees their privacy across borders irrespective of their location or the location of the data. Complete the eHealth Digital Service Infrastructure and extend it by new digital services, support deployment of the European exchange format for electronic health records.</td>
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PROCEDURE – COMMITTEE ASKED FOR OPINION

| Title | Establishing the Digital Europe programme for the period 2021-2027 |
| Committee responsible | ITRE |
| Date announced in plenary | 14.6.2018 |
| Opinion by | JURI |
| Date announced in plenary | 14.6.2018 |
| Rapporteur | Evelyne Gebhardt |
| Date appointed | 9.7.2018 |
| Discussed in committee | 24.9.2018 – 11.10.2018 |
| Date adopted | 20.11.2018 |
| Result of final vote | +: 21 |
| | --: 2 |
| | 0: 0 |
| Members present for the final vote | Max Andersson, Joëlle Bergeron, Jean-Marie Cavada, Kostas Chrysogonos, Mady Delvaux, Laura Ferrara, Lidia Joanna Geringer de Oedenberg, Sajjad Karim, Sylvia-Yvonne Kaufmann, Gilles Lebreton, António Marinho e Pinto, Emil Radev, Julia Reda, Evelyn Regner, Pavel Svboda, József Szájer, Axel Voss, Francis Zammit Dimech, Tadeusz Ziefka |
| Substitutes present for the final vote | Geoffroy Didier, Pascal Durand, Jytte Guteland, Virginie Rozière, Kosma Zlotowski |
## FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

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<td>PPE</td>
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<td>S&amp;D</td>
<td>Mady Delvaux, Lidia Joanna Geringer de Oedenberg, Jytte Guteland, Sylvia-Yvonne Kaufmann, Evelyn Regner, Virginie Rozière</td>
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<td>VERTS/ALE</td>
<td>Max Andersson, Pascal Durand, Julia Reda</td>
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Key to symbols:
+ : in favour
- : against
0 : abstention
9.11.2018

OPINION OF THE COMMITTEE ON CIVIL LIBERTIES, JUSTICE AND HOME AFFAIRS

for the Committee on Industry, Research and Energy


Rapporteur for opinion: Jeroen Lenaers

AMENDMENTS

The Committee on Civil Liberties, Justice and Home Affairs calls on the Committee on Industry, Research and Energy, as the committee responsible, to take into account the following amendments:

Amendment 1

Proposal for a regulation
Recital 5

Text proposed by the Commission

(5) Pursuant to paragraph 22 and 23 of the Inter-institutional agreement for Better Law-Making of 13 April 2016\(^4\), there is a need to evaluate this Programme on the basis of information collected through specific monitoring requirements, while avoiding overregulation and administrative burdens, in particular on Member States. These requirements, where appropriate, can include measurable indicators, as a basis for evaluating the effects of the Programme on the ground.

Amendment

(5) Pursuant to paragraph 22 and 23 of the Inter-institutional agreement for Better Law-Making of 13 April 2016\(^4\), there is a need to evaluate this Programme on the basis of information collected through specific monitoring requirements, correlated to existing needs and complying with the Regulation (EU) 2016/679 of the European Parliament and of the Council\(^{54a}\), while avoiding overregulation and administrative burdens for all beneficiaries, in particular on Member States and SMEs. These
requirements should, where appropriate, include measurable indicators, as a basis for evaluating the effects of the Programme on the ground.


Amendment 2

Proposal for a regulation
Recital 6

Text proposed by the Commission

(6) The Tallinn Digital Summit\(^5^5\) of September 2017 and the Conclusions of the European Council\(^5^6\) of 19 October 2017 indicated the need for Europe to invest in digitising our economies and addressing the skills gap to maintain and enhance European competitiveness, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires collectively tackling some of the challenges posed by the digital transformation and reviewing policies affected by the digital transformation.

Amendment

(6) The Tallinn Digital Summit\(^5^5\) of September 2017 and the Conclusions of the European Council\(^5^6\) of 19 October 2017 indicated the need for Europe to invest in efficient digitalisation of our economies and addressing the skills gap to maintain and enhance European competitiveness and innovation, our quality of life and social fabric. The European Council concluded that the digital transformation offers immense opportunities for innovation, growth and jobs, will contribute to our global competitiveness, and enhance creative and cultural diversity. Seizing these opportunities requires collectively tackling the challenges posed by the digital transformation in several ways, including by ensuring that the essential building blocks on which new technologies rely are put in place, by
creating effective and easily enforceable legal rules, by reviewing policies affected by the digital transformation, and by creating an innovation-friendly environment in which the interests of users are fully safeguarded.

Amendment 3
Proposal for a regulation
Recital 7

Text proposed by the Commission

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as artificial intelligence and distributed ledgers technologies (e.g. blockchain), while at the same time ensuring a high level of data protection, digital rights and ethical standards. The European Council invited the Commission to put forward a European approach to artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry.

Amendment

(7) The European Council concluded in particular that the Union should urgently address emerging trends: this includes issues such as artificial intelligence, while at the same time ensuring a high level of data protection in full compliance with Regulation (EU) 2016/679, digital rights, fundamental rights and ethical standards. The European Council invited the Commission to put forward a European approach to artificial intelligence by early 2018 and called on the Commission to put forward the necessary initiatives for strengthening the framework conditions with a view to enable the EU to explore new markets through risk-based radical innovations and to reaffirm the leading role of its industry.

Amendment 4
Proposal for a regulation
Recital 7 a (new)
For a successful implementation of this Programme, more is needed than following the trends. The Union needs to be committed to privacy-enabling technologies (i.e. cryptography and decentralised applications (DApps)) as well as increased investments in future-proof infrastructure (fibre-optic networks) to enable a self-determined digitalised society.

Amendment 5
Proposal for a regulation
Recital 9
Text proposed by the Commission
(9) The Communication “Towards a common European data space”58, addresses the new measure to be taken as a key step towards a common data space in the EU - a seamless digital area with a scale that will enable the development of new products and services based on data.

58 COM (2018) 125 final

Amendment
(9) The Communication “Towards a common European data space”58, addresses the new measure to be taken as a key step towards a common data space in the EU - a seamless digital area with a scale that will enable the development and innovation of new products and services based on data.

58 COM (2018) 125 final

Amendment 6
Proposal for a regulation
Recital 10
Text proposed by the Commission
(10) The general objective of the Programme should be to support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over

Amendment
(10) The general objective of the Programme should be to support the digital transformation of industry and society and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of citizens and businesses all over
the Union. The programme should be structured into five Specific Objectives reflecting key policy areas, namely: high-performance computing, cybersecurity, artificial intelligence, advanced digital skills, and deployment, best use of digital capacities and interoperability. For all these areas, the Programme should also aim at better aligning Union, Member States and regional policies, and pooling of private and industrial resources in order to increase investment and develop stronger synergies.

Amendment 7
Proposal for a regulation
Recital 11

(11) A central role in the implementation of the Programme should be attributed to Digital Innovation Hubs, which should stimulate the broad adoption of advanced digital technologies by industry, by public organisations and academia. A network of Digital Innovation Hubs should ensure the widest geographical coverage across Europe. A first set of Digital Innovation Hubs will be selected based on Member States’ proposals and then the network will be enlarged through an open and competitive process. The Digital Innovation Hubs will serve as access points to latest digital capacities including high performance computing (HPC), artificial intelligence, cybersecurity, as well as other existing innovative technologies such as Key Enabling Technologies, available also in fablabs or citylabs. They shall act as single-entry points in accessing tested and validated technologies and promote open innovation. They will also provide support in the area of advanced digital skills. The
network of Digital Innovation Hubs should also contribute to the participation of the outermost regions in the Digital Single Market.

As indicated in the Communication on Digitising European Industry (COM(2016) 180 final)

Amendment 8
Proposal for a regulation
Recital 12

Text proposed by the Commission

(12) The Programme should be implemented through projects reinforcing essential digital capacities and their wide use. This should involve co-investments with Member States and, when needed, the private sector. This should notably require reaching a critical mass in procurement to obtain better value for money and guarantee that suppliers in Europe stay at the forefront of technology advancements.

Amendment

(12) The Programme should be implemented through projects reinforcing essential digital capacities and their wide use. This should involve co-investments with Member States and, when needed, the private sector. This should notably require reaching a critical mass in procurement to obtain better value for money and guarantee that suppliers in Europe stay at the forefront of technology advancements.

The Programme should also aim at protecting the interests of the citizens of the Union.

Amendment 9
Proposal for a regulation
Recital 14

Text proposed by the Commission

(14) The Programme's actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating or crowding out private financing and have a clear European added value.

Amendment

(14) The Programme's actions should be used to address market failures or sub-optimal investment situations, in a proportionate manner, without duplicating private financing and have clear added value for the Union and its citizens.
Amendment 10

Proposal for a regulation
Recital 16

Text proposed by the Commission

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment

(16) The high performance computing and the related data processing capacities in the Union should allow to ensure wider use of high performance computing by research, civil society, industry and, more generally, in areas of public interest in order to seize unique opportunities that supercomputers bring to society as regards health, environment and security as well as competitiveness of industry, notably small and medium-sized enterprises.

Amendment 11

Proposal for a regulation
Recital 17

Text proposed by the Commission

(17) The support to the Union’s intervention in this area was expressed by the Council\(^{60}\) and, by the European Parliament\(^{61}\). Moreover, in 2017 nine Member States signed the EuroHPC Declaration\(^{62}\), a multi-government agreement where they commit to collaborate with the Commission to build and deploy state-of-the-art HPC and data infrastructures in Europe that would be available across the Union for scientific communities, public and private partners.

European leadership in supercomputing can only be attained if Union intervention in this area also focusses on enhancing the Union’s attractiveness to European and international researchers, thereby reducing brain drain.

Amendment

(17) The support to the Union’s intervention in this area was expressed by the Council\(^{60}\) and, by the European Parliament\(^{61}\). Moreover, in 2017 nine Member States signed the EuroHPC Declaration\(^{62}\), a multi-government agreement where they commit to collaborate with the Commission to build and deploy state-of-the-art HPC and data infrastructures in Europe that would be available across the Union for scientific communities, public and private partners.
Amendment 12

Proposal for a regulation
Recital 18

*Text proposed by the Commission*

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, academia and public administrations.

*Amendment*

(18) For the high performance computing specific objective a joint undertaking is deemed the most suited implementation mechanism, in particular to coordinate national and Union strategies and investments in high performance computing infrastructure and research and development, pool resources from public and private funds, and safeguard the economic and strategic interests of the Union and its citizens. Moreover, high performance computing competence centres in Member States will provide high performance computing services to industry, academia and public administrations.

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Amendment 13

Proposal for a regulation
Recital 19

*Text proposed by the Commission*

(19) Developing capacity related to

*Amendment*

(19) Developing capacity related to

PE625.457v02-00 280/303 RR\1170470EN.docx
artificial intelligence is a crucial driver for the digital transformation of industry and also of the public sector. Ever more autonomous robots are used in factories, deep sea application, homes, cities and hospitals. Commercial artificial intelligence platforms have moved from testing to real applications in health and environment; all major car manufacturers are developing self-driving cars, and machine learning techniques are at the heart of all main web platforms and big data applications.

Amendment 14
Proposal for a regulation
Recital 20

*Text proposed by the Commission*

(20) The availability of large-scale data sets and testing and experimentation facilities are of major importance for the development of artificial intelligence.

*Amendment*

(20) The availability of large-scale data sets and testing and experimentation facilities are of major importance for the development of artificial intelligence. *At the same time, these large-scale data sets need to be secure and comply with Regulation No 2016/679.*

Amendment 15
Proposal for a regulation
Recital 21

*Text proposed by the Commission*

(21) In its resolution of 1 June 2017 on digitising European industry the European Parliament highlighted the importance of a common European cybersecurity approach, recognising the

RR\1170470EN.docx 281/303  PE625.457v02-00
need to raise awareness and considered cyber-resilience as a crucial responsibility for business leaders and national and European industrial security policymakers. Furthermore, in its resolution of 3 October 2017 on the fight against cybercrime the European Parliament underlined the fact that cross-border cybercrime is increasing rapidly which makes it necessary to urgently step up the response at Union and Member State level, and furthermore stressed that, next to the necessary legal measures, the fight against cybercrime is first and foremost about technological challenges, in particular safeguarding and hardening critical infrastructures and other networked devices.


Amendment 16

Proposal for a regulation
Recital 22

Text proposed by the Commission

(22) Cybersecurity is a challenge for the whole Union that cannot continue to be addressed only with fragmented national initiatives. Europe's cybersecurity capacity should be reinforced to endow Europe with the necessary capacities to protect its citizens and businesses from cyber threats. In addition consumers should be protected when using connected products that can be hacked and compromise their safety. This should be achieved together with Member States and private sector by developing, and ensuring coordination between, projects reinforcing Europe's capacities in cybersecurity and ensuring the wide

Amendment

(22) Cybersecurity is a challenge for the whole Union that cannot continue to be addressed only with fragmented national initiatives. Europe's cybersecurity capacity should be reinforced to endow Europe with the necessary technological capacities and legislation to protect its citizens, businesses, public institutions and democracy from cyber threats and attacks. In addition consumers should be protected when using connected products that can be hacked and compromise their safety. This should be achieved together with Member States and private sector by developing, and ensuring coordination between,
deployment of latest cybersecurity solutions across the economy, as well as by aggregating the competences in this field to ensure critical mass and excellence.

projects reinforcing Europe's capacities in cybersecurity and ensuring the wide deployment of latest cybersecurity solutions across the economy, including by promoting public-private cooperation and by means of awareness raising measures, as well as by aggregating the competences in this field to ensure critical mass and excellence.

Amendment 17

Proposal for a regulation
Recital 24

Trump is a prerequisite for the Digital Single Market to function. Cybersecurity technologies such as digital identities, cryptography or intrusion detection, and their application in areas such as finance, industry 4.0, energy, transportation, healthcare, or e-government are essential to safeguard the security and trust of online activity and transactions by both citizens, public administrations, and companies.

Amendment

(24) Trust is a prerequisite for the Digital Single Market to function. Cybersecurity technologies such as digital identities, cryptography, encryption or intrusion detection, and their application in areas such as finance, industry 4.0, energy, transportation, healthcare, or e-government are essential to safeguard the security and trust of online activity and transactions by both citizens, public administrations, and companies.

Amendment 18

Proposal for a regulation
Recital 28

The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and

Amendment

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled-up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and
made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment 19
Proposal for a regulation
Recital 28

Text proposed by the Commission

(28) The advanced digital technologies supported by this Programme, such as high performance computing, cybersecurity and artificial intelligence are now sufficiently mature to move beyond the research arena and be deployed, implemented and scaled up at Union level. Just as the deployment of these technologies require a Union response so does the skills dimension. Training opportunities in advanced digital skills need to be scaled up, increased and made accessible throughout the EU. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.

Amendment 20
Proposal for a regulation
Recital 29

made accessible throughout the EU to tackle the digital divide that is based on social-structural factors, such as income, gender or age. Failing this could impede the smooth deployment of advanced digital technologies and hamper the overall competitiveness of Union's economy. The actions supported by this programme are complementary to those supported by the ESF, ERDF and Horizon Europe programmes.
(29) Modernising public administrations and services through digital means is crucial to reducing administrative burden on industry and on citizens in general by making their interactions with public authorities faster, more convenient and less costly, as well as by increasing the efficiency and the quality of the services provided to citizens and businesses. Since a number of services of public interest already have a Union dimension, the support to their implementation and deployment at Union level should ensure that citizens and businesses will benefit from the access to high quality digital services across Europe.

Amendment

Proposal for a regulation

Recital 30

Text proposed by the Commission

(30) The digital transformation of the areas of public interest such as healthcare, mobility, justice, earth/environmental monitoring, education and culture requires the continuation and expansion of Digital Service Infrastructures, which make secure cross-border exchange of data possible and foster national development. Their coordination under this Regulation best achieves the potential for exploiting synergies.

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Amendment 22

Proposal for a regulation
Recital 32

Text proposed by the Commission

(32) The modernisation of European public administrations is one of the key priorities for successful implementation of the Digital Single Market Strategy. The mid-term evaluation of the Strategy highlighted the need to strengthen the transformation of public administrations and to ensure citizens have easy, trusted, and seamless access to public services.

Amendment

(32) The modernisation of European public administrations is one of the key priorities for successful implementation of the Digital Single Market Strategy. The mid-term evaluation of the Strategy highlighted the need to strengthen the transformation of public administrations and to ensure citizens have easy, trusted, **secure** and seamless access to public services.

Amendment 23

Proposal for a regulation
Recital 34

Text proposed by the Commission

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates successful implementation of policies and offers great potential to avoid cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, common public services at Union level. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, **and** the most responsive to end-users. This implies that interoperability is to be understood in a broad sense, spanning from technical to legal layers and encompassing policy elements in the field. Accordingly, the span of activities would

Amendment

(34) Interoperability of European public services concerns all levels of administration: Union, national, regional and local. Besides removing barriers to a functioning Single Market, interoperability facilitates successful implementation of policies and offers great potential to avoid cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, common public services **at Union level** **as well as preventing unnecessary double-storage**. In order to eliminate fragmentation of European services, to support fundamental freedoms and operational mutual recognition in the EU, a holistic cross-sector and cross-border approach to interoperability should be promoted in the manner that is the most effective, the most responsive to end-users **and that ensures a high level of data protection**. This implies that interoperability is to be understood in a broad sense, spanning from technical to
go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large. Legal layers and encompassing policy elements in the field. Accordingly, the span of activities would go beyond the usual lifecycle of solutions to include all the interventions elements that would support the necessary framework conditions for sustained interoperability at large.

Amendment 24

Proposal for a regulation

Recital 40

Text proposed by the Commission

(40) The General Data Protection Regulation (GDPR), applicable from May 2018 onwards, by providing for a single set of rules directly applicable in the Member States legal orders, will guarantee the free flow of personal data between EU Member States and reinforce trust and security of the individuals, two indispensable elements for a real Digital Single Market. The actions undertaken under this Programme, when they involve the processing of personal data, should therefore support the application of the GDPR, for instance in the field of artificial intelligence and blockchain technology.

Amendment

(40) Regulation (EU) 2016/679 by providing for a single set of rules directly applicable in the Member States legal orders guarantees the free flow of personal data between EU Member States and reinforces trust and security of the individuals, two indispensable elements for a real Digital Single Market. All actions undertaken under this Programme, when they involve the processing of personal data, should therefore be in full compliance with that Regulation. They should especially support the development of digital technologies that comply with the ‘data protection by design’ obligations which are binding pursuant to that Regulation to the extent that the processing involves electronic communications data, due respect is to be paid to Directive 2002/58/EC of the European Parliament and of the Council. ¹a

Amendment 25
Proposal for a regulation
Recital 40

Text proposed by the Commission

(40) The General Data Protection Regulation (GDPR), applicable from May 2018 onwards, by providing for a single set of rules directly applicable in the Member States legal orders, will guarantee the free flow of personal data between EU Member States and reinforce trust and security of the individuals, two indispensable elements for a real Digital Single Market. The actions undertaken under this Programme, when they involve the processing of personal data, should therefore support the application of the GDPR, for instance in the field of artificial intelligence and blockchain technology.

Amendment

(40) The General Data Protection Regulation (GDPR), applicable from May 2018 onwards, by providing for a single set of rules directly applicable in the Member States legal orders, will guarantee the free flow of personal data between EU Member States and reinforce trust and security of the individuals, two indispensable elements for a real Digital Single Market. The actions undertaken under this Programme, when they involve the processing of personal data, should therefore support the application of the GDPR, for instance in the field of artificial intelligence. They should especially support the development of digital technologies that comply with the “data protection by design” obligations which are binding pursuant to the GDPR.

Amendment 26
Proposal for a regulation
Recital 42

Text proposed by the Commission

(42) Bodies implementing this Programme should comply with the provisions applicable to the Union institutions, and with national legislation regarding the handling of information, in particular sensitive non-classified information and EU classified information.

Amendment

(42) To the extent that bodies implementing this Programme handle sensitive non-classified information or Union classified information, they should respect the relevant provisions laid down in Union acts or national legislation regarding the handling of information, as applicable.

Amendment 27
Proposal for a regulation
Article 2 – paragraph 1 – point e
Text proposed by the Commission

(e) 'Digital Innovation Hub' means legal entity designated or selected in an open and competitive procedure in order to fulfil the tasks under the Programme, in particular providing access to technological expertise and experimentation facilities, such as equipment and software tools to enable the digital transformation of the industry.

Amendment

Proposal for a regulation
Article 3 – paragraph 1 – introductory part

1. The Programme has the following general objective: to support the digital transformation of the European economy and society and bring its benefits to European citizens and businesses. The Programme will:

Amendment

Proposal for a regulation
Article 3 – paragraph 2 – point a

(a) Specific Objective 1: High Performance Computing

Amendment

(a) Specific Objective 1: IT Infrastructure, including High Performance Computing

Amendment

Proposal for a regulation
Article 4 – title

Text proposed by the Commission

High Performance Computing

Amendment

IT Infrastructure including High
Amendment 31

Proposal for a regulation
Article 4 – paragraph 1 – introductory part

Text proposed by the Commission
The financial intervention by the Union under Specific Objective 1. High Performance Computing shall pursue the following operational objectives:

Amendment
The financial intervention by the Union under Specific Objective 1. IT Infrastructure, including High Performance Computing shall pursue the following operational objectives:

Amendment 32

Proposal for a regulation
Article 4 – paragraph 1 – point c

Text proposed by the Commission
(c) deploy and operate a post-exascale\(^78\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures for computing science.

Amendment
(a) deploy and operate a post-exascale\(^78\) infrastructure, including the integration with quantum computing technologies and develop new research infrastructures for high-performance computing science.

\(^78\) A thousand times faster than exascale

Amendment 33

Proposal for a regulation
Article 5 – paragraph 1 – point a

Text proposed by the Commission
(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in compliance with data protection legislation;

Amendment
(a) build up and strengthen core artificial intelligence capacities in the Union, including data resources and libraries of algorithms in full compliance with data protection legislation, including the principle of data protection by design.
and by default, and the principle of security by design;

Amendment 34

Proposal for a regulation
Article 5 – paragraph 1 – point b

Text proposed by the Commission

(b) make those capacities accessible to all businesses and public administrations;

Amendment

(b) make those capacities accessible to all businesses, public research institutions and public administrations;

Amendment 35

Proposal for a regulation
Article 5 – paragraph 1 – point c

Text proposed by the Commission

(c) reinforce and network existing artificial intelligence testing and experimentation facilities in Member States;

Amendment

(c) reinforce existing ethical artificial intelligence testing and experimentation facilities in Member States and facilitate cooperation between such facilities across the Union;

Amendment 36

Proposal for a regulation
Article 5 – paragraph 1 – point c a (new)

Text proposed by the Commission

(c a) develop and integrate ethical guidelines for artificial intelligence, taking into account research and evaluation of possible implications of artificial intelligence, including autonomous systems powered by artificial intelligence, on society.

Amendment 37
Proposal for a regulation
Article 6 – paragraph 1 – point a

Text proposed by the Commission

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in full compliance with data protection legislation;

Amendment

(a) support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures in order to achieve a common high level of cybersecurity at Union level, in full support of and compliance with data protection legislation, including data protection and privacy by design;

Amendment 38

Proposal for a regulation
Article 6 – paragraph 1 – point b

Text proposed by the Commission

(b) support the best use of European knowledge, capacity and skills related to cybersecurity;

Amendment

(b) support the development, exchange and best use of European knowledge, capacity and skills related to cybersecurity, including through more training and education;

Amendment 39

Proposal for a regulation
Article 6 – paragraph 1 – point c

Text proposed by the Commission

(c) ensure a wide deployment of the latest cybersecurity solutions across the economy;

Amendment

(c) ensure a wide deployment of the latest cybersecurity solutions across the economy, including by raising awareness about those solutions among businesses and citizens and through code auditing of free and open source software;

Amendment 40

Proposal for a regulation
Article 6 – paragraph 1 – point d
Text proposed by the Commission

(d) reinforce capabilities within Member States and private sector to help them meet Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union.\(^79\)

\(^79\) OJ L 194, 19.7.2016, p. 1–30

Amendment

Proposal for a regulation
Article 7 – paragraph 1 – introductory part

Text proposed by the Commission

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, \textit{distributed ledger technologies}, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

Amendment

The financial intervention by the Union under Specific Objective 4. Advanced Digital skills shall support the development of advanced digital skills in areas supported by this programme, thus contributing to increase Europe's talent pool, fostering greater professionalism, especially with regard to high performance computing, big data analytics, cybersecurity, robotics and artificial intelligence. The financial intervention shall pursue the following operational objectives:

Amendment

Proposal for a regulation
Article 7 – paragraph 1 – point a

Text proposed by the Commission

(a) support the design and delivery of long-term trainings and courses for students, IT professionals and the

Amendment

(a) support the design and delivery of long-term \textit{and requalification} trainings and courses for students, IT professionals
workforce; and the workforce, *including for work-seekers*;

**Amendment 43**

**Proposal for a regulation**
**Article 7 – paragraph 1 – point b**

*Text proposed by the Commission*

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce;

*Amendment*

(b) support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders, *innovators* and the workforce;

**Amendment 44**

**Proposal for a regulation**
**Article 7 – paragraph 1 – point c**

*Text proposed by the Commission*

(c) support on-the-job trainings and traineeships for students, young entrepreneurs and graduates.

*Amendment*

(c) support on-the-job trainings and traineeships for students, young entrepreneurs and graduates and the workforce.

**Amendment 45**

**Proposal for a regulation**
**Article 8 – paragraph 1 – point a**

*Text proposed by the Commission*

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

*Amendment*

(a) ensure that the public sector and areas of public interests, such as health and care, education, judiciary, *security*, transport, energy, environment, cultural and creative sectors, can deploy and access state-of-the-art digital technologies, in particular high performance computing, artificial intelligence and cybersecurity;

**Amendment 46**
Proposal for a regulation
Article 8 – paragraph 1 – point b

**Text proposed by the Commission**
(b) deploy, operate and maintain trans-European interoperable Digital Service Infrastructures (including related services) in complementarity with national and regional actions;

**Amendment**
(b) deploy, operate and maintain trans-European interoperable *state-of-the-art* Digital Service Infrastructures (including related services) in complementarity with national and regional actions;

**Justification**
Aligned with point (a).

Amendment 47

Proposal for a regulation
Article 8 – paragraph 1 – point c

**Text proposed by the Commission**
(c) facilitate the development, update and use of solutions and frameworks by European public administrations, businesses and citizens, including the re-use of interoperability solutions and frameworks;

**Amendment**
(c) facilitate the development, update and use of solutions and frameworks by European public administrations, businesses and citizens, including *open source and* the re-use of interoperability solutions and frameworks;

Amendment 48

Proposal for a regulation
Article 8 – paragraph 1 – point f

**Text proposed by the Commission**
(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;

**Amendment**
(f) support the design, testing, implementation and deployment of interoperable digital solutions for EU level public services delivered through a data-driven reusable solutions platform, fostering innovation and *creativity, and* establishing common frameworks in order to unleash the full potential of the public administrations’ services for European citizens and businesses;
Amendment 49

Proposal for a regulation
Article 8 – paragraph 1 – point h

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
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<tbody>
<tr>
<td>(h) support cooperation towards achieving a European ecosystem for trusted infrastructures <strong>using distributed ledger services and applications</strong>, including support for interoperability and standardisation and fostering the deployment of EU cross-border applications;</td>
<td>(h) support cooperation towards achieving a European ecosystem for trusted infrastructures, including support for interoperability, <strong>encryption</strong> and standardisation and fostering the deployment of EU cross-border applications;</td>
</tr>
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Amendment 50

Proposal for a regulation
Article 8 – paragraph 1 – point i

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
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<tbody>
<tr>
<td>(i) build up <strong>and</strong> strengthen the network of Digital Innovation Hubs.</td>
<td>(i) build up, strengthen <strong>and promote</strong> the network of Digital Innovation Hubs.</td>
</tr>
</tbody>
</table>

Amendment 51

Proposal for a regulation
Article 9 – paragraph 2 – point b

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<th>Text proposed by the Commission</th>
<th>Amendment</th>
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<tbody>
<tr>
<td>(b) up to EUR <strong>2 498 369 000</strong> for Specific Objective 2, Artificial Intelligence</td>
<td>(b) up to EUR <strong>2 248 533 000</strong> for Specific Objective 2, Artificial Intelligence</td>
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Amendment 52

Proposal for a regulation
Article 9 – paragraph 2 – point c

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<th>Amendment</th>
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<tr>
<td>(c) up to EUR <strong>1 998 696 000</strong> for Specific Objective 3, Cybersecurity and Trust</td>
<td>(c) up to EUR <strong>2 248 532 000</strong> for Specific Objective 3, Cybersecurity and Trust</td>
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</tbody>
</table>
Amendment 53
Proposal for a regulation
Article 11 – paragraph 1 a (new)

Text proposed by the Commission

Amendment

1 a. Planning, development and procurement in the Programme shall be done with a view to enhancing Union competitiveness in the medium and long term. Priority shall be given to actions that increase the strategic potential and limit the dependence on suppliers and products from outside the Union.

Justification

A European independence from suppliers from outside of Europe is not only relevant for a competitive industry, but also for securing the EU against foreign attacks on its digital and critical infrastructures. In order to achieve that, medium and long term objectives need to be favoured.

Amendment 54
Proposal for a regulation
Article 16 – paragraph 2 – introductory part

Text proposed by the Commission

Amendment

2. For the purpose of the establishment of the network mentioned in paragraph 1, each Member State shall designate candidate entities through an open and competitive process, on the basis of the following criteria:

Amendment 55
Proposal for a regulation
Article 16 – paragraph 2 – point a a (new)

Text proposed by the Commission

Amendment
(a a) social and ecological criteria, as well as the involvement of labour associations, the workforce, trade unions, social partners and civil society.

Amendment 56

Proposal for a regulation
Article 16 – paragraph 4

_text proposed by the Commission_

4. Additional Digital Innovation Hubs shall be selected on the basis of an open and competitive process, in such a way to ensure the widest geographical coverage across Europe. The number of entities of the network shall be proportional to the population of a given Member States and there shall be at least one Digital Innovation Hub per Member State. To address the specific constraints faced by the EU outermost regions, specific entities may be nominated to cover their needs.

Amendment

4. Additional Digital Innovation Hubs shall be selected on the basis of an open process, in such a way to ensure the widest geographical coverage and the involvement of the workforce, trade unions, social partners, civil society and companies across Europe. The number of entities of the network shall be proportional to the population of a given Member States and there shall be at least one Digital Innovation Hub per Member State. To address the specific constraints faced by the EU outermost regions, specific entities may be nominated to cover their needs.

Amendment 57

Proposal for a regulation
Article 16 – paragraph 6 – point d a (new)

_text proposed by the Commission_

(d a) continuously transfer the expertise and know-how developed by this programme to the general public to ensure the highest possible transparency for society at large, for example at dialogue events involving scientists, the workforce, civil society and industry.

Amendment

(d a) continuously transfer the expertise and know-how developed by this programme to the general public to ensure the highest possible transparency for society at large, for example at dialogue events involving scientists, the workforce, civil society and industry.
Article 20 – paragraph 1 – point e

Text proposed by the Commission

(e) where applicable, the economic, social, climate and environmental impact, and accessibility;

Amendment

(e) the impact on society, workforce, economy, climate, environment and accessibility;

Amendment 59

Proposal for a regulation

Article 20 – paragraph 1 – point e

Text proposed by the Commission

(e) where applicable, the economic, social, climate and environmental impact, and accessibility;

(e) where applicable, the economic, social, climate and environmental impact, gender balance opportunities, and accessibility;
# PROCEDURE – COMMITTEE ASKED FOR OPINION

| Title | Establishing the Digital Europe programme for the period 2021-2027 |
| Committee responsible | ITRE |
| Date announced in plenary | 14.6.2018 |
| Opinion by | LIBE |
| Date announced in plenary | 14.6.2018 |
| Rapporteur | Jeroen Lenaers |
| Date appointed | 9.7.2018 |
| Date adopted | 5.11.2018 |
| Result of final vote | +: 34 |
| | --: 1 |
| | 0: 4 |
| Members present for the final vote | Heinz K. Becker, Monika Beňová, Michal Boni, Daniel Dalton, Frank Engel, Cornelia Ernst, Kinga Gál, Ana Gomes, Sophia in ’t Veld, Eva Joly, Dietmar Köster, Barbara Kudrycka, Cécile Kashetu Kyenge, Juan Fernando López Aguilar, Roberta Metsola, Claude Moraes, Ivari Padar, Judith Sargentini, Giancarlo Scottà, Birgit Sippel, Csaba Sógor, Sergei Stanishev, Helga Stevens, Traian Ungureanu, Marie-Christine Vergiat, Josef Weidenholzer, Kristina Winberg, Auke Zijlstra |
| Substitutes present for the final vote | Carlos Coelho, Pál Csáky, Maria Grapini, Sylvia-Yvonne Kaufmann, Maite Pagazaurtundúa Ruiz, Morten Helveg Petersen, Barbara Spinelli |
| Substitutes under Rule 200(2) present for the final vote | Petras Aušreliūnas, Rupert Matthews, Martina Michels |
### FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

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<td>Giancarlo Scottà</td>
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<td>GUE/NGL</td>
<td>Cornelia Ernst, Martina Michels, Barbara Spinelli, Marie-Christine Vergiat</td>
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<td>Monika Beňová, Ana Gomes, Maria Grapini, Sylvia-Yvonne Kaufmann, Dietmar Köster, Cécile Kashetu Kyenge, Juan Fernando López Aguilar, Claude Moraes, Ivari Padar, Birgit Sippel, Sergei Stanishev, Josef Weidenholzer</td>
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<td>VERTS/ALE</td>
<td>Eva Joly, Judith Sargentini</td>
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Key to symbols:
+ : in favour
- : against
0 : abstention
### PROCEDURE – COMMITTEE RESPONSIBLE

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<tr>
<th>Title</th>
<th>Establishing the Digital Europe programme for the period 2021-2027</th>
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<tr>
<td>Date submitted to Parliament</td>
<td>7.6.2018</td>
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<td>Committee responsible</td>
<td>ITRE</td>
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<tr>
<td>Date announced in plenary</td>
<td>14.6.2018</td>
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<td>Committees asked for opinions</td>
<td>BUDG, ENVI, IMCO, TRAN</td>
</tr>
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<td>14.6.2018</td>
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<td>14.6.2018</td>
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<td>Rapporteurs</td>
<td>Angelika Mlinar</td>
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<td>Date appointed</td>
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<td>Discussed in committee</td>
<td>3.9.2018, 9.10.2018</td>
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<td>Date adopted</td>
<td>21.11.2018</td>
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<td>Substitutes present for the final vote</td>
<td>Amjad Bashir, Soledad Cabezón Ruiz, Françoise Grossetête, Benedek Jávor, Olle Ludvigsson, Marian-Jean Marinescu, Clare Moody, Dennis Radtke, Davor Škrlec</td>
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<td>Substitutes under Rule 200(2) present for the final vote</td>
<td>Boleslaw G. Piecha</td>
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## FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE

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<td>GUE/NGL</td>
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<td>VERTS/ALE</td>
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<td>ENF</td>
<td>Christelle Lechevalier</td>
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</table>

Key to symbols:
+ : in favour  
- : against  
0 : abstention