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Computing Joint Undertaking

COUNCIL REGULATION (EU) 2018/...

of ...

establishing the European High Performance Computing Joint Undertaking

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 187 and the first paragraph of Article 188 thereof,

Having regard to the proposal from the European Commission,

Having regard to the opinion of the European Parliament,

Having regard to the opinion of the European Economic and Social Committee¹,

¹ Opinion of the European Economic and Social Committee 23 May 2018 (not yet published in the Official Journal).

Whereas

- (1) Public-private partnerships in the form of Joint Technology Initiatives were initially provided for in Decision No 1982/2006/EC of the European Parliament and of the Council.¹
- (2) Regulation (EU) No 1291/2013 of the European Parliament and of the Council² establishes Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020), 'Horizon 2020'. It aims to achieve a greater impact with respect to research and innovation by combining Horizon 2020 and private sector funds in public-private partnerships in areas where the scope and scale of the resources in research and innovation are justified to the Union's wider competitiveness goals, leverage private investment and help tackle societal challenges in a limited number of cases with a clear European added-value. Those partnerships should be based on a long-term commitment, including a balanced contribution from all partners, be accountable for the achievement of their objectives and be aligned with the Union's strategic goals relating to research, development and innovation. The governance and functioning of those partnerships should be open, transparent, effective, efficient and inclusive, by giving the opportunity to a wide range of stakeholders active in their specific areas to participate.

¹ Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013) (OJ L 412, 30.12.2006, p. 1).

² Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC (OJ L 347, 20.12.2013, p. 104).

- (3) In accordance with Regulation (EU) No 1290/2013 of the European Parliament and of the Council¹ and Council Decision 2013/743/EU², support may be provided to joint undertakings established in the framework of Horizon 2020 under the conditions specified in that Decision.
- (4) Regulation (EU) No 1316/2013 of the European Parliament and of the Council³ established the Connecting Europe Facility (CEF). CEF should enable projects of common interest to be prepared and implemented within the framework of the trans-European networks policy in the sectors of transport, telecommunications and energy. In particular, CEF should support the implementation of those projects of common interest which aim at the development and construction of new infrastructures and services, or at the upgrading of existing infrastructures and services, in the transport, telecommunications and energy sectors. CEF should contribute to supporting projects with a European added value and significant societal benefits which do not receive adequate financing from the market.

¹ Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for the participation and dissemination in 'Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)' and repealing Regulation (EC) No 1906/2006 (OJ L 347, 20.12.2013, p. 81).

² Council Decision 2013/743/EU of 3 December 2013 establishing the specific programme implementing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decisions 2006/971/EC, 2006/972/EC, 2006/973/EC, 2006/974/EC and 2006/975/EC, (OJ L 347, 20.12.2013, p. 965).

³ Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010 (OJ L 348, 20.12.2013, p. 129).

- (5) Regulation (EU) No 283/2014 of the European Parliament and of the Council¹ established the guidelines for trans-European networks in the area of telecommunications infrastructure and laid down the sector specific conditions for the telecommunications sector.
- (6) High Performance Computing qualifies as a project of common interest in the area of digital service infrastructures identified to be eligible for funding subject to Article 6(1) of Regulation (EU) No 283/2014, namely access to re-usable public sector information, as referred to in point 3(d) of the Annex to that Regulation. In accordance with Article 6(3) of Regulation (EU) No 1316/2013, the Commission may entrust part of the implementation of the CEF to the bodies referred to in point (c) of Article 62(1) of Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council².
- (7) The Communication from the Commission entitled 'Europe 2020 - A Strategy for smart, sustainable and inclusive growth' (the 'Europe 2020 strategy'), endorsed by the European Parliament and by the Council, emphasises the need to develop favourable conditions for investment in knowledge and innovation so as to achieve smart, sustainable and inclusive growth in the Union.

¹ Regulation (EU) No 283/2014 of the European Parliament and of the Council of 11 March 2014 on guidelines for trans-European networks in the area of telecommunications infrastructure and repealing Decision No 1336/97/EC (OJ L 86, 21.3.2014, p. 14).

² Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 (OJ L 193, 30.7.2018, p. 1).

- (8) The Communication from the Commission of 19 April 2016 entitled 'European Cloud Initiative – building a competitive data and knowledge economy in Europe' calls for the establishment of a European data infrastructure based on leading-class High Performance Computing capabilities and the development of a full European High Performance Computing ecosystem capable of developing new European technology and realise exascale supercomputers. The importance of the area and the challenges faced by the stakeholders in the Union require action in order to gather the necessary resources and capabilities, including the existing ones such as, for example, national supercomputers and supercomputing centres, to close the chain from research and development to the delivery and operation of the exascale High Performance Computing systems. Therefore, a mechanism should be set up at Union level to combine and concentrate the provision of support to the establishment of a world-class European High Performance Computing infrastructure and for research and innovation in High Performance Computing by Member States, the Union and the private sector. This infrastructure should provide access to the public sector users, users from industry, including small and medium-sized enterprises (SMEs), and users from academia, including the scientific communities of the emerging European Open Science Cloud.

- (9) The Communication from the Commission of 10 May 2017 on the Mid-Term Review on the implementation of the Digital Single Market Strategy - A Connected Digital Single Market for All, identifies High Performance Computing as a critical element for the digitisation of industry and the data economy. Substantial investments are needed to develop, acquire and operate supercomputers that rank among the top three in the world and no single European country has the resources to develop a full High Performance Computing ecosystem alone. There is, therefore, a need for the Member States, the Union and the private sector to coordinate their efforts and share their resources in order to meet the increasing demand for High Performance Computing and to build up a strong and innovative High Performance Computing science and industry ecosystem across the Union. The Communication proposes the creation of a legal instrument that provides a procurement framework for an integrated exascale supercomputing and data infrastructure.

- (10) In order to equip the Union with the computing performance needed to maintain its research at a leading edge, the Member States investment in High Performance Computing should be coordinated and the industrial and market take-up of High Performance Computing technology be reinforced both in the public and private sectors. The Union should increase its effectiveness in turning the technology developments into demand-oriented and application-driven European High Performance Computing systems that are competitive in the marketplace, establishing an effective link between technology supply, co-design with users, and a joint procurement of world-class systems, and creating a globally competitive ecosystem in High Performance Computing technologies and applications. At the same time, the Union should provide an opportunity for its supply industry to leverage on such investments, leading to their uptake in large-scale and emerging application fields such as personalised medicine, connected and automated driving or other lead markets that are underpinned by artificial intelligence, blockchain technologies, edge computing or more broadly by the digitisation of Union industry.

- (11) A Joint Undertaking represents the best instrument capable to implement the goals of the European High Performance Computing Strategy as set out in the European Cloud Initiative, to overcome the present limitations, while offering the highest economic, societal, and environmental impact and best safeguarding the Union's interests. It can pool resources from the Union, the Member States and the private sector. It can implement a procurement framework and operate world-class High Performance Computing systems via promotion of technology, particularly if it is a competitive European one. It can launch research and innovation programmes for developing European technologies and their subsequent integration in exascale supercomputing systems and contribute to developing a competitive European technology supply industry.
- (12) The Joint Undertaking should be set up and start operating at the latest by early 2019 to reach the target of equipping the Union with a pre-exascale infrastructure by 2020, and to develop the necessary technologies and applications for reaching exascale capabilities around 2022 to 2023, while promoting a competitive European High Performance Computing innovation ecosystem. Since a development cycle of the next generation of technology typically takes four to five years, to stay competitive on the global market, the actions to reach the exascale target have to start as soon as possible.

- (13) The public-private partnership in the form of the Joint Undertaking should combine the financial and technical means that are essential to master the complexity of the ever escalating pace of innovation in this area. Therefore, the members of the Joint Undertaking should be the Union, Member States and countries associated to Horizon 2020 agreeing on a joint European initiative in High Performance Computing, and associations representing their constituent entities and other organisations with an explicit and active engagement to produce research and innovation results and keep the know-how in the field of High Performance Computing in Europe. The Joint Undertaking should be open to new members.
- (14) The Union, the Participating States and the Private Members of the Joint Undertaking should each provide a financial contribution to the administrative costs of the Joint Undertaking. Under the multiannual financial framework for the years 2014-2020, a contribution to the administrative costs by the Union can be frontloaded to cover the running costs only up to 2023. The Participating States and the Private Members of the Joint Undertaking should fully cover the administrative costs of the Joint Undertaking as of 2024.

- (15) With a view to regaining a leading position in High Performance Computing technologies, and develop a full High Performance Computing ecosystem for the Union, the industrial and research stakeholders in the European Technology Platform for High Performance Computing (ETP4HPC) private Association have established a contractual Public Private Partnership with the Union in 2014. Its mission is to build a European world-class High Performance Computing technology value chain that should be globally competitive, fostering synergies between the three main components of the High Performance Computing ecosystem, namely technology development, applications and supercomputing infrastructure. Considering its expertise, and its role in bringing together the relevant private stakeholders in High Performance Computing, the ETP4HPC private Association should be eligible for membership in the Joint Undertaking.
- (16) With a view to strengthening the data value chain, enhancing community building around data and setting the grounds for a thriving data-driven economy in the Union, the industrial and research stakeholders in the Big Data Value Association (BDVA) have established in 2014 a contractual public private partnership with the Union. Considering its expertise and its role in bringing together the relevant private stakeholders of big data, BDVA should be eligible for membership in the Joint Undertaking.

- (17) The private associations ETP4HPC and BDVA have expressed, in writing, their willingness to contribute to the Joint Undertaking's technological strategy and bring their expertise into the realisation of the objectives of the Joint Undertaking. It is appropriate that the private associations accept the Statutes set out in the Annex to this Regulation by means of a letter of endorsement.
- (18) The not-for-profit Partnership for Advanced Computing in Europe (PRACE) association has 25 member countries whose representative organisations create a pan-European supercomputing infrastructure, providing access to computing and data management resources and services for large-scale scientific and engineering applications at the highest performance level. The Joint Undertaking may cooperate with PRACE for providing and managing access to a federated and interconnected supercomputing and data infrastructure and its services, as well as for training facilities and skills development opportunities.
- (19) The GÉANT network interconnects 38 national research and education network partners delivering a pan-European network for scientific excellence, research, education and innovation. Through its integrated catalogue of connectivity, collaboration and identity services, GÉANT provides users with highly reliable, unconstrained access to computing, analysis, storage, applications and other resources, to ensure that Europe remains at the forefront of research. The Joint Undertaking may cooperate with the GEANT network for the connectivity between the supercomputers of the Joint Undertaking, as well as with other European supercomputing and data infrastructures.

- (20) The Joint Undertaking should address clearly defined topics that would enable academia and European industries at large to design, develop and use the most innovative technologies in High Performance Computing, and to establish an integrated networked infrastructure across the Union with world-class High Performance Computing capability, high-speed connectivity and leading-edge applications and data and software services for its scientists and for other lead users from industry, including SMEs and the public sector. The Joint Undertaking should make efforts to reduce the specific High Performance Computing-related skills gap across the Union by engaging in awareness raising measures and assisting in the building of new knowledge and human capital.
- (21) The Joint Undertaking should lay the ground for a longer-term vision and prepare the path towards building the first hybrid High Performance Computing infrastructure in Europe, integrating classical computing architectures with quantum computing devices, e.g. exploiting the quantum computer as an accelerator of High Performance Computing threads. Structured and coordinated financial support at European level is necessary to help research teams and European industries remain at the leading edge in a highly competitive international context by producing world-class results to ensure the fast and broad industrial exploitation of European research and technology across the Union generating important spill-overs for society, to share risk-taking and joining of forces by aligning strategies and investments towards a common European interest.

- (22) In order to achieve its objectives to design, develop and use the most innovative technologies in High Performance Computing, the Joint Undertaking should provide financial support in particular in the form of grants and procurement following open and competitive calls for proposals and calls for tenders based on annual work plans. Such financial support should be targeted in particular at proven market failures that prevent the development of the programme concerned, and should have an incentive effect in that it changes the behaviour of the recipient.
- (23) In order to achieve its objectives to increase the innovation potential of industry, and in particular of SMEs, contribute to reducing the specific High Performance Computing related skills gap, support the increase of knowledge and human capital and upraise High Performance Computing capabilities, the Joint Undertaking should support the creation, and in particular the networking and coordination of national High Performance Computing competence centres across the Union. These competence centres should provide High Performance Computing services to industry, academia and public administrations on their demand. They should primarily promote and enable access to the High Performance Computing innovation ecosystem, facilitate access to the supercomputers, address the significant shortages in skilled technical experts by undertaking awareness raising, training and outreach activities, and embark on networking activities with stakeholders and other competence centres to foster wider innovations, for example by exchanging and promoting best practice use cases or application experiences, by sharing their training facilities and experiences, by facilitating the co-development and exchange of parallel codes, or by supporting the sharing of innovative applications and tools for public and private users, in particular SMEs.

- (24) The Joint Undertaking should provide a demand-oriented and user-driven framework and enable a co-design approach for the acquisition of an integrated, world-class, exascale supercomputing and data infrastructure in the Union, in order to equip users with the strategic computation resource they need to remain competitive and solve societal, environmental, economic and security challenges. For this purpose, the Joint Undertaking should contribute to the acquisition of pre-exascale and petascale supercomputers. The supercomputers of the Joint Undertaking should be installed in a Participating State that is a Member State.
- (25) Horizon 2020 should contribute to the closing of the research and innovation divide within the Union by promoting synergies with the European Structural and Investments Funds (ESIF). Therefore the Joint Undertaking should seek to develop close interactions with the ESIF, which can specifically help to strengthen local, regional and national research and innovation capabilities.

- (26) The Joint Undertaking should provide a favourable framework for Participating States that are Member States to use their ESIF for the acquisition of supercomputers. The use of ESIF in the Joint Undertaking activities is essential for developing in the Union an integrated and networked world-class High Performance Computing and data infrastructure, since the benefits for such infrastructure extend well beyond the users of the Member States. If Participating States decide to use ESIF for contributing to the acquisition costs of the petascale and the pre-exascale supercomputers, the Joint Undertaking should take into consideration the Union's share of ESIF of this Participating State, while accounting only the national ESIF share as national contribution to the budget of the Joint Undertaking. In any case, the Union's contribution from Horizon 2020 and CEF funds should cover up to 50 % of the acquisition costs plus up to 50 % of the operating costs of the pre-exascale supercomputers, to align with the Joint Undertaking's objective to contribute to the pooling of resources for equipping the Union with world-class pre-exascale supercomputers. In the case of petascale supercomputers, the Union's contribution from Horizon 2020 and CEF funds would cover up to 35 % of the acquisition costs of the supercomputer, to align with the existing funding for innovation procurement in Horizon 2020. The remaining costs of the petascale supercomputers and the pre-exascale supercomputers should be covered by the Participating States.

(27) The Joint Undertaking should be the owner of the pre-exascale supercomputers it has acquired. The operation of each pre-exascale supercomputer should be entrusted to a hosting entity. The hosting entity may represent a single Participating State that is a Member State or a hosting consortium. The hosting entity should be in position to provide an accurate estimate and to verify the operating costs of the supercomputer, by ensuring, for example, the functional separation, and to the extent possible, the physical separation of the Joint Undertaking pre-exascale supercomputers and any national or regional computing systems it operates. The hosting entity should be selected by the Governing Board of the Joint Undertaking ('Governing Board') following a call for expression of interest evaluated by independent experts. Once a hosting entity is selected, the Participating State where the hosting entity is established or the hosting Consortium should be able to decide to call for other Participating States to join and contribute to the funding of the pre-exascale supercomputer to be installed in the selected hosting entity. The share of the Union's access time to the pre-exascale supercomputer should be directly proportional to the financial contribution of the Union made from Horizon 2020 and CEF funds to the total cost of ownership of that supercomputer and should not exceed 50 % of the total access time of that supercomputer. The contributions of the Participating States in a hosting Consortium to the pre-exascale supercomputer should be translated into shares of access time to that supercomputer. The Participating States should agree among themselves the distribution of their share of access time to the pre-exascale supercomputer. The Joint Undertaking should remain the owner of the pre-exascale supercomputers until they are depreciated.

Then ownership could be transferred to the hosting entity for decommissioning, disposal or any other use. If it is so agreed, where the ownership is transferred to the hosting entity before the full depreciation period of a pre-exascale supercomputer or because the Joint Undertaking is being wound up, the hosting entity should reimburse the Joint Undertaking the residual value of the supercomputer.

- (28) The Joint Undertaking should jointly with Participating States procure the petascale supercomputers. The operation of each petascale supercomputer should be entrusted to a hosting entity. The hosting entity may represent a single Participating State that is a Member State or a hosting consortium of Participating States. The Joint Undertaking should own the part that corresponds to the Union's share of financial contribution to the acquisition costs from Horizon 2020 and CEF funds. The hosting entity should be selected by the Governing Board following a call for expression of interest evaluated by independent experts. The share of the Union's access time to each petascale supercomputer should be directly proportional to the financial contribution of the Union from Horizon 2020 and CEF funds to the acquisition costs of that petascale supercomputer. The Joint Undertaking should transfer its ownership to the hosting entity after the full depreciation of operation of the petascale supercomputer or when it is being wound up. In the latter case, the hosting entity should reimburse the Joint Undertaking the residual value of the supercomputer.

- (29) The design and operation of the pre-exascale and petascale supercomputers supported by the Joint Undertaking should take into consideration energy efficiency and environmental sustainability.
- (30) To be able to address the ever growing demand of users to supercomputing resources, the Participating States may provide to the Joint Undertaking access time to one or more of their national supercomputers which is available, namely that has not already been committed and which is not co-funded by the Joint Undertaking. In this case, Participating States should provide to the Joint Undertaking on a voluntary basis a reasonable share of access time to national supercomputers having an acceptable performance level, in order for the Joint Undertaking to be able to address the user demand. Such provision of access time to a national supercomputer should not be accounted as financial or in-kind contribution of the Participating State to the Joint Undertaking.

- (31) The use of the pre-exascale and petascale supercomputers should be primarily for public research and innovation purposes, for any user from academia, industry or the public sector. User allocation of access time to the supercomputers should primarily be based on open calls for expression of interest launched by the Joint Undertaking and evaluated by independent experts. Upon decision by the Governing Board, it should be possible to grant a small percentage of access time without a call for expression of interest in some exceptional cases such as strategic European initiatives or in emergency and crisis management situations. The Joint Undertaking should be allowed to carry out some limited economic activities for commercial purposes. Access should be granted to users established in the Union or a country associated to Horizon 2020. The access rights should be equitable to any user and allocated in a transparent manner. The Governing Board should define and monitor the access rights to the Union's share of access time for each supercomputer.

- (32) The supercomputers of the Joint Undertaking should be operated and used in compliance with Regulation (EU) 2016/679¹, Directive 2002/58/EC² and Directive (EU) 2016/943 of the European Parliament and of the Council.³
- (33) Limited use of the supercomputers by users carrying out economic activities for non-research civilian applications should be allowed. Access time should be primarily granted to any user established in the Union or a country associated to Horizon 2020. The access rights should be allocated in a transparent manner.

¹ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1).

² Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications) (OJ L 201, 31.07.2002 p. 37).

³ Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure (OJ L 157, 15.06.2016, p. 1).

- (34) The Joint Undertaking governance should be assured by two bodies: a Governing Board, and an Industrial and Scientific Advisory Board. The Governing Board should be composed of representatives of the Union and Participating States. The Governing Board should be responsible for strategic policy making and funding decisions related to the activities of the Joint Undertaking, in particular for all the public procurement activities. The Industrial and Scientific Advisory Board should include representatives of academia and industry as users and technology suppliers. It should provide independent advice to the Governing Board on the strategic research and innovation agenda and on the acquisition and operation of the supercomputers owned by the Joint Undertaking.
- (35) For the general administrative tasks of the Joint Undertaking, the voting rights of the Participating States should be distributed equally among them. For the tasks corresponding to the setting up of the part of the work plan related to the acquisition of the supercomputers, the selection of the hosting entity and the research and innovation activities of the Joint Undertaking, the voting rights of the Participating States that are Member States should be based on the principle of qualified majority. The Participating States that are countries associated to Horizon 2020 should also hold voting rights for the tasks corresponding to the research and innovation activities. For the tasks corresponding to the acquisition and operation of the supercomputers, only those Participating States and the Union that contribute resources to the procurement of petascale supercomputers and the total cost of ownership of pre-exascale supercomputers should have voting rights proportional to their contribution.

- (36) The Union's financial contribution should be managed in accordance with the principle of sound financial management and with the relevant rules on indirect management set out in Regulation (EU, Euratom) 2018/1046. Rules applicable for the Joint Undertaking to enter into public procurement procedures are to be set in its financial rules.
- (37) To foster an innovative and competitive European High Performance Computing ecosystem, the Joint Undertaking should make appropriate use of the procurement and grant instruments, including joint procurement, pre-commercial procurement and public procurement of innovative solutions.
- (38) In assessing the overall impact of the Joint Undertaking, investments from the Private Members should be taken into account, as in-kind contributions consisting of the costs incurred by them in implementing actions, less the contributions by the Joint Undertaking.
- (39) In order to maintain a level playing field for all undertakings active in the internal market, funding from the Union Framework Programmes should be compatible with State aid principles so as to ensure the effectiveness of public spending and prevent market distortions such as crowding-out of private funding, the creation of ineffective market structures or the preservation of inefficient firms.

- (40) Participation in indirect actions funded by the Joint Undertaking should comply with Regulation (EU) No 1290/2013. The Joint Undertaking should, moreover, ensure the consistent application of those rules based on relevant measures adopted by the Commission. In order to ensure appropriate co-financing of indirect actions by the Participating States, in compliance with Regulation (EU) No 1290/2013, the Participating States should aim at contributing an amount at least equal to the reimbursement provided by the Joint Undertaking for the eligible costs incurred by beneficiaries in the actions. To this effect, the maximum funding rates set out in the annual work plan of the Joint Undertaking in accordance with Article 28 of Regulation (EU) No 1290/2013 should be fixed accordingly.
- (41) Provision of financial support to activities from CEF should comply with rules of CEF.
- (42) The financial interests of the Union and of the other members of the Joint Undertaking should be protected by proportionate measures throughout the expenditure cycle, including the prevention, detection and investigation of irregularities, the recovery of lost, wrongly paid or incorrectly used funds and, where appropriate, the application of administrative and financial penalties in accordance with Regulation (EU, Euratom) 2018/1046.

- (43) The Joint Undertaking should operate in an open and transparent way providing all relevant information in a timely manner as well as promoting its activities, including information and dissemination activities, to the wider public. The rules of procedure of the bodies of the Joint Undertaking should be made publicly available.
- (44) For the purpose of simplification, the administrative burden should be reduced for all parties. Double audits and disproportionate amounts of documentation and reporting should be avoided. For actions funded from Horizon 2020, audits of recipients of Union funds under this Regulation should be carried out in compliance with Regulation (EU) No 1291/2013. For actions funded from CEF, audits of recipients of Union funds under this Regulation should be carried out in compliance with Regulation (EU) 1316/2013.
- (45) The Commission's internal auditor should exercise the same powers over the Joint Undertaking as those exercised in respect of the Commission.
- (46) The Commission, the Joint Undertaking, the Court of Auditors and the European Anti-Fraud Office (OLAF) should get access to all necessary information and the premises to conduct audits and investigations on the grants, contracts and agreements signed by the Joint Undertaking.
- (47) All calls for proposals and all calls for tender under this Regulation should take into account the duration of Horizon 2020 and CEF, as appropriate, except in duly justified cases.

- (48) The Joint Undertaking should also use the electronic means managed by the Commission to ensure openness, transparency and facilitate participation. Therefore, the calls for proposals launched by the Joint Undertaking under Horizon 2020 should also be published on the single portal for participants, as well as through other Horizon 2020 electronic means of dissemination managed by the Commission. Moreover, relevant data on, *inter alia*, proposals, applicants, grants and participants should be made available by the Joint Undertaking for inclusion in Horizon 2020 reporting and dissemination electronic systems managed by the Commission, in an appropriate format and with the periodicity corresponding to the Commission's reporting obligations.
- (49) An interim and a final evaluation of the Joint Undertaking should be conducted by the Commission with the assistance of independent experts. In a spirit of transparency, the relevant independent experts' report should be made publicly available, in compliance with the applicable rules.

(50) Since the objectives of this Regulation, namely the strengthening of research and innovation capabilities, the acquisition of petascale and pre-exascale supercomputers, and access to High Performance Computing and data infrastructure across the Union by means of a Joint Undertaking, cannot be sufficiently achieved by the Member States, but can rather, by reason of avoiding unnecessary duplication, retaining critical mass and ensuring that public financing is used in an optimal way, be better achieved at the Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union (TEU). In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives,

HAS ADOPTED THIS REGULATION:

Article 1
Establishment

1. For the implementation of the initiative on European High Performance Computing, a Joint Undertaking within the meaning of Article 187 of the Treaty on the Functioning of the European Union (TFEU) (the 'European High performance Computing Joint Undertaking', the 'Joint Undertaking') is hereby established for a period until 31 December 2026.
2. In order to take into account the duration of the European Framework Programme for Research and Innovation (Horizon 2020) established by Regulation (EU) No 1291/2013 and the Connecting Europe Facility (CEF) established by Regulation (EU) No 1316/2013, calls for proposals and calls for tenders under this Regulation shall be launched by 31 December 2020. In duly justified cases, calls for proposals or calls for tender may be launched by 31 December 2021.
3. The Joint Undertaking shall be a body entrusted with the implementation of a public-private partnership as referred to in Article 71 of Regulation (EU, Euratom) 2018/1046.

4. The Joint Undertaking shall have legal personality. In each Member State, it shall enjoy the most extensive legal capacity accorded to legal persons under the laws of that Member State. It may, in particular, acquire or dispose of movable and immovable property and may be a party to legal proceedings.
5. The seat of the Joint Undertaking shall be located in Luxembourg.
6. The Statutes of the Joint Undertaking ('the Statutes') are set out in the Annex.

Article 2

Definitions

For the purposes of this Regulation, the following definitions apply:

- (1) 'acceptance test' means a test conducted to determine if the requirements of the system specification are met;
- (2) 'access time' means the computing time of a supercomputer that is made available to a user or a group of users to execute their computer programs;
- (3) 'affiliated entity' means an entity as defined in point (2) of Article 2(1) of Regulation 1290/2013;

- (4) 'national High Performance Computing competence centre' means a legal entity established in a Participating State that is a Member State, associated with the national supercomputing centre of that Member State, providing users from industry, including SMEs, academia, and public administrations with access on demand to the supercomputers and to the latest High Performance Computing technologies, tools, applications and services, and offering expertise, skills, training, networking and outreach;
- (5) 'constituent entity' means an entity that constitutes a Private Member of the Joint Undertaking, pursuant to the statutes of each Private Member;
- (6) 'exascale supercomputer' means a computing system with a performance level capable of executing ten to the power of eighteen operations per second (or 1 Exaflop) supporting applications that deliver high-fidelity solutions in less time and that address problems of greater complexity;
- (7) 'hosting agreement' means an agreement concluded between the Joint Undertaking and the hosting entity of a pre-exascale supercomputer or between the Joint Undertaking, the other co-owners of a petascale supercomputer and the hosting entity of a petascale supercomputer, which may take the form of a service contract or other contract;

- (8) 'hosting consortium' means a group of Participating States that have agreed to contribute to the acquisition and operation of a pre-exascale supercomputer or of a petascale supercomputer;
- (9) 'hosting entity' means a legal entity which includes facilities to host and operate a supercomputer and which is established in a Participating State that is a Member State;
- (10) 'national supercomputer' means a national computing system located in a Participating State with a performance level of at least 0,4 Petaflops and that is not procured under this Regulation;
- (11) 'observer State' means a Member State or a country associated to Horizon 2020 that is not a Participating State;
- (12) 'Participating State' means a country that is a member of the Joint Undertaking;
- (13) 'petascale supercomputer' means a computing system with a performance level capable of executing ten to the power of fifteen operations per second (or 1 Petaflop);
- (14) 'pre-exascale supercomputer' means a computing system with a performance level capable of executing more than 100 Petaflops and less than 1 Exaflop;
- (15) 'Private Member' means a private association that is a member of the Joint Undertaking;

- (16) 'supercomputer' means any computing system having at least petascale computing performance and procured under this Regulation;
- (17) 'total cost of ownership' of a supercomputer means the acquisition costs plus the operating costs, including maintenance, until the ownership of the supercomputer is transferred to the hosting entity or is sold or until the supercomputer is decommissioned without transfer of ownership;
- (18) 'user' means any natural or legal person, entity or international organisation that has been granted access time to use a Joint Undertaking supercomputer;
- (19) 'work plan' means the work plan as defined in point (22) of Article 2(1) of Regulation (EU) No 1290/2013 and which also functions as the work programme referred to in Article 17 of Regulation (EU) No 1316/2013.

Article 3

Mission, objectives and activities

1. The mission of the Joint Undertaking shall be to develop, deploy, extend and maintain in the Union an integrated world-class supercomputing and data infrastructure and to develop and support a highly competitive and innovative High-Performance Computing ecosystem.
2. The Joint Undertaking shall have the following overall objectives:
 - (a) to provide the research and scientific community, as well as the industry including SMEs, and the public sector from the Union or countries associated to Horizon 2020 with the best available and competitive High Performance Computing and data infrastructure and to support the development of its technologies and its applications across a wide range of fields;

- (b) to provide a framework for the acquisition of an integrated, demand-oriented and user-driven world-class petascale and pre-exascale supercomputing and data infrastructure in the Union;
- (c) to provide Union-level coordination and adequate financial resources to support the development and acquisition of such infrastructure, which will be accessible to users from the public and private sector primarily for research and innovation purposes;
- (d) to support an ambitious research and innovation agenda to develop and maintain in the Union a world-class High Performance Computing ecosystem, exascale and beyond, covering all scientific and industrial value chain segments, including low-power processor and middleware technologies, algorithms and code design, applications and systems, services and engineering, interconnections, know-how and skills, for the next generation supercomputing era;
- (e) to promote the uptake and systematic use of research and innovation results generated in the Union by users from science, industry, including SMEs, and the public sector.

3. The Joint Undertaking shall have the following specific objectives:

- (a) to contribute to the implementation of Regulation (EU) No 1291/2013 and Decision 2013/743/EU, in particular Part II of the specific programme as defined in Article 2 of that Decision ('specific programme'), and to the implementation of Regulations (EU) No 1316/2013 and (EU) No 283/2014;
- (b) to align strategies between Member States and the Union in a coordinated European High Performance Computing strategy and contribute to the effectiveness of public support by avoiding unnecessary duplication and fragmentation of efforts;
- (c) to pool Union resources, national resources and private investment and bring the investments in High Performance Computing to a level comparable to that of its global competitors;
- (d) to build and operate a world-class integrated supercomputing and data infrastructure with the necessary variety in architecture for addressing different user requirements across the Union as an essential component for scientific excellence, and for the digitisation of industry, and the public sector, and for strengthening the innovation capabilities and global competitiveness for creating economic and employment growth in the Union;

- (e) to provide access to High Performance Computing-based infrastructures and services to a wide range of users from the research and scientific community, as well as the industry including SMEs, and the public sector, for new and emerging data and compute-intensive applications and services;
- (f) to support the development in the Union of world-class exascale and post-exascale High Performance Computing technologies, including low-power micro-processor and related middleware technologies, and their integration into supercomputing systems through a co-design approach, as well as their uptake in large-scale and emerging application fields;
- (g) to bridge the gap between research and development and the delivery of exascale High Performance Computing systems reinforcing the digital technology supply chain in the Union and enabling the acquisition by the Joint Undertaking of world-class supercomputers, possibly integrating European technologies;

- (h) to achieve excellence in High Performance Computing applications for world-class performance through development and optimisation of codes and applications and other High Performance Computing-enabled large-scale and emerging lead-market applications in a co-design approach, supporting Centres of Excellence in High Performance Computing applications and large-scale High Performance Computing-enabled pilot demonstrators and test-beds for big data applications and services in a wide range of scientific and industrial areas;
- (i) to interconnect and federate regional, national and European High Performance Computing supercomputers and other computing systems, data centres and associated software and applications in cooperation with PRACE and GÉANT;
- (j) to increase the innovation potential of industry, and in particular of SMEs, using advanced High Performance Computing infrastructures, applications and services, through the creation and in particular through the networking and coordination of national High Performance Computing competence centres across the Union;
- (k) to improve understanding of High Performance Computing and contribute to reducing skills gaps in the Union related to High Performance Computing through awareness, training and dissemination of know-how;
- (l) to widen the scope of High Performance Computing usage.

4. The Joint Undertaking shall implement the general and specific objectives referred to in paragraphs 2 and 3 around the following main pillars of activity:
- (a) general administrative activities for the operation and management of the Joint Undertaking;
 - (b) activities for the acquisition, deployment, interconnection, operation and access time management of world-class supercomputing and data infrastructures;
 - (c) activities for supporting a research and innovation agenda for establishing an innovation ecosystem addressing hardware and software supercomputing technologies and their integration into exascale supercomputing systems, advanced applications, services and tools, skills and know-how.

Article 4

Union's financial contribution

1. The Union financial contribution to the Joint Undertaking including EFTA appropriations shall be up to EUR 486 000 000, distributed as follows:
- (a) up to EUR 386 000 000 from Horizon 2020, including at least EUR 10 000 000 for administrative costs;

(b) up to EUR 100 000 000 from CEF;

2. The Union's financial contribution referred to in point (a) of paragraph 1 shall be paid from the appropriations in the general budget of the Union allocated to the specific programme.

The Union's financial contribution referred to in point (a) of paragraph 1 shall include at least EUR 180 000 000 for calls for proposals in order for the Joint Undertaking to provide financial support to indirect actions corresponding to the research and innovation agenda.

3. The Union's financial contribution referred to in point (b) of paragraph 1 shall be paid from the appropriations in the general budget of the Union allocated to CEF and shall be dedicated exclusively to the acquisition of supercomputers.
4. The budget implementation as regards the Union's financial contribution shall be entrusted to the Joint Undertaking acting as a body as referred to in Article 71 of Regulation (EU, Euratom) 2018/1046 in accordance with point (c)(iv) of Article 62(1), and Article 154, of that Regulation.

5. The arrangements for the Union's financial contribution shall be set out in a contribution agreement and annual transfer of funds agreements to be concluded between the Commission, on behalf of the Union, and the Joint Undertaking.
6. The contribution agreement referred to in paragraph 5 of this Article shall address the elements set out in Articles 129(2) and 154, of Regulation (EU, Euratom) 2018/1046 as well as, *inter alia*, the following:
 - (a) the requirements for the Joint Undertaking's contribution concerning the relevant performance indicators referred to in Annex II to Decision 2013/743/EU;
 - (b) the requirements for the Joint Undertaking's contribution in view of the monitoring referred to in Annex III to Decision 2013/743/EU;
 - (c) the specific performance indicators related to the functioning of the Joint Undertaking;
 - (d) the arrangements regarding the provision of data necessary to ensure that the Commission is able to meet its dissemination and reporting obligations as referred to in Article 28 of Regulation (EU) No 1291/2013 and Article 28 of Regulation (EU) No 1316/2013, including on the single portal for participants, as well as through other electronic means of dissemination managed by the Commission;

- (e) the arrangements regarding the provision of data necessary to ensure that the Commission is able to meet its dissemination and reporting obligations as referred to in Article 8 of Regulation (EU) No 283/2014;
- (f) provisions for the publication of calls for proposals of the Joint Undertaking also on the single portal for participants, as well as through other electronic means of dissemination managed by the Commission;
- (g) provisions for the publication of calls for tenders of the Joint Undertaking in the *Official Journal of the European Union*, as well as through other electronic means of dissemination managed by the Commission;
- (h) the use of and changes to human resources, in particular recruitment by function group, grade and category, the reclassification exercise and any changes to the number of staff members.

Article 5

Other Union contributions

Contributions from Union programmes other than those referred to in Article 4(1) that are part of a Union co-financing to a programme implemented by one of the Participating States shall not be accounted for in the calculation of the Union maximum financial contribution referred to in Article 4.

Article 6

Contributions of members other than the Union

1. The Participating States shall make a contribution to the administrative costs of the Joint Undertaking of at least EUR 10 000 000. In addition, the Participating States shall make a contribution to the operational costs of the Joint Undertaking that is commensurate to the Union's financial contribution set out in Article 4(1). The amount of at least EUR 476 000 000 is envisaged.
2. The Private Members of the Joint Undertaking shall make or arrange for their constituent entities and affiliated entities to make contributions for at least EUR 422 000 000 to the Joint Undertaking, including EUR 2 000 000 for administrative costs.
3. The contributions referred to in paragraphs 1 and 2 of this Article shall consist of contributions as set out in Article 15 of the Statutes.
4. The contributions referred to in point (e) of Article 15(3) of the Statutes may be provided by each Participating State to beneficiaries established in that Participating State. They may complement the Joint Undertaking's contribution, within the applicable maximum reimbursement rate set out in Article 28 of Regulation (EU) No 1290/2013. Such contributions shall be without prejudice to State aid rules.

5. The members of the Joint Undertaking other than the Union shall report by 31 January of each year to the Governing Board on the value of the contributions referred to in paragraphs 1 and 2 of this Article made in the previous financial year.
6. For the purpose of valuing the contributions referred to in points (b) to (f) of Article 15(3) of the Statutes, the costs shall be determined in accordance with the usual cost accounting practices of the entities concerned, with the applicable accounting standards of the country where the entity is established and with the applicable International Accounting Standards and International Financial Reporting Standards. The costs shall be certified by an independent external auditor appointed by the entity concerned. The valuation method may be verified by the Joint Undertaking, should there be any uncertainty arising from the certification. In case of remaining uncertainties, the valuation method may be audited by the Joint Undertaking.
7. The Commission may terminate, proportionally reduce or suspend the Union's financial contribution to the Joint Undertaking or trigger the winding-up procedure referred to in Article 23 of the Statutes if members other than the Union, including their constituent entities and affiliated entities, do not contribute, contribute only partially or contribute late with regard to the contributions referred to in paragraphs 1 and 2 of this Article.

Article 7

Provision of access time to national supercomputers

The Participating States may provide to the Joint Undertaking at least 20 % of access time to one or more of their national supercomputers. These contributions shall not be accounted for in the calculation of the contribution referred to in Article 6(1).

Article 8

Hosting entity

1. Supercomputers shall be located in a Participating State that is a Member State. A Participating State shall not host more than one pre-exascale supercomputer or one petascale supercomputer.
2. The hosting entity may represent one Participating State that is a Member State or a hosting consortium. The hosting entity and the competent authorities of the Participating State or Participating States in a hosting consortium shall enter into an agreement to this effect.
3. The Joint Undertaking shall entrust to a hosting entity the operation of each individual pre-exascale supercomputer it owns in accordance with Article 10.

The Joint Undertaking and the other co-owners shall entrust to a hosting entity the operation of each individual petascale supercomputer they own in accordance with Article 11.

4. Hosting entities for pre-exascale and petascale supercomputers shall be selected in accordance with paragraph 5 of this Article and the Joint Undertaking's financial rules referred to in Article 15.
5. Following a call for expression of interest, the hosting entity and the corresponding Participating State where the hosting entity is established or the corresponding hosting consortium shall be selected by the Governing Board through a fair and transparent process based, *inter alia*, on the following criteria:
 - (a) compliance with the general system specifications defined in the call for expression of interest;
 - (b) total cost of ownership of the supercomputer;
 - (c) experience of the hosting entity in installing and operating similar systems;
 - (d) quality of the hosting facility's physical and IT infrastructure, its security and its connectivity with the rest of the Union;
 - (e) quality of service to the users, namely capability to comply with the service level agreement provided among the documents accompanying the selection procedure;
 - (f) prior acceptance by the hosting entity of the terms and conditions set out in the model hosting agreement as referred to in point (o) of Article 7(3) of the Statutes, including in particular the elements set out in Article 9(2) and those defined in the selection procedure;

- (g) provision of an appropriate supporting document proving the commitment of the Member State where the hosting entity is established or of the competent authorities of the Participating States of the hosting consortium to cover the share of the total cost of ownership of the pre-exascale supercomputer that is not covered by the Union contribution as set out in Article 4 or any other Union contribution as set out in Article 5, either until its ownership is transferred by the Joint Undertaking to that hosting entity or until the supercomputer is sold or decommissioned in case there is no transfer of ownership;
 - (h) provision of an appropriate supporting document proving the commitment of the Member State where the hosting entity is established or of the competent authorities of the Participating States in the hosting consortium to cover all the costs of the total cost of ownership of the petascale supercomputer that are not covered by the Union contribution as set out in Article 4 or any other Union contribution as set out in Article 5.
6. After the selection of the hosting entity, the Participating State where the selected hosting entity is established or the corresponding hosting consortium may decide to invite additional Participating States to join it. The commitment of the joining Participating States shall represent a marginal fraction of the total cost of ownership of the pre-exascale supercomputer until its ownership is transferred by the Joint Undertaking to that hosting entity.

Article 9
Hosting agreement

1. The Joint Undertaking shall conclude a hosting agreement with each selected hosting entity prior to launching the procedure for the acquisition of a pre-exascale supercomputer.

The Joint Undertaking and the other co-owners shall conclude a hosting agreement with each selected hosting entity prior to launching the procedure for the acquisition of a petascale supercomputer.

2. The hosting agreement shall address in particular the following elements:
 - (a) the rights and obligations during the procedure for acquisition of the supercomputer, including the acceptance test of the supercomputer;
 - (b) the liability conditions for operating the supercomputer;
 - (c) the quality of service offered to the users when operating the supercomputer, as set out in the service level agreement;

- (d) the plans regarding the supercomputer's energy efficiency and environmental sustainability;
- (e) the access conditions of the Union's share of access time to the supercomputer, as decided by the Governing Board in accordance with Article 13;
- (f) the accounting modalities of the access times;
- (g) the share of the total cost of ownership that the hosting entity shall arrange to be covered by the Participating State where the hosting entity is established or by the Participating States in the hosting consortium;
- (h) the conditions for the transfer of ownership referred to in Articles 10(3) and 11(3), including, in the case of pre-exascale supercomputers, provisions for the calculation of their residual value and for their decommissioning;
- (i) the obligation of the hosting entity to provide access to the supercomputers, while ensuring the security of the supercomputers, the protection of personal data in accordance with Regulation (EU) 2016/679, the protection of privacy of electronic communications in accordance with Directive 2002/58/EC, the protection of trade secrets in accordance with Directive (EU) 2016/943 and the protection of confidentiality of other data covered by the obligation of professional secrecy;

- (j) in the case of pre-exascale supercomputers, the obligation of the hosting entity to put in place a certified audit procedure covering the costs of operation of the supercomputer and the access times of the users;
 - (k) the obligation of the hosting entity to submit by 31 January of each year to the Governing Board an audit report and data on the use of access time in the previous financial year.
3. The hosting agreement shall be governed by Union law, supplemented for any matter not covered by this Regulation or by other Union legal acts by the law of the Member State where the hosting entity is located.
 4. The hosting agreement shall contain an arbitration clause granting jurisdiction to the Court of Justice of the European Union.
 5. After the hosting agreement is concluded, the Joint Undertaking, supported by the selected hosting entity, shall launch the procedures for the acquisition of the pre-exascale supercomputer in accordance with the financial rules of the Joint Undertaking referred to in Article 15.

After the hosting agreement is concluded, the Joint Undertaking, jointly with the competent authorities of the Participating States, supported by the selected hosting entity, shall launch the procedures for the acquisition of the petascale supercomputer in accordance with the financial rules of the Joint Undertaking referred to in Article 15.

Article 10

Acquisition and ownership of the pre-exascale supercomputers

1. The Joint Undertaking shall procure the pre-exascale supercomputers and shall own them.
2. The Union financial contribution referred to in Article 4(1) shall cover up to 50 % of the acquisition costs plus up to 50 % of the operating costs of the pre-exascale supercomputers.

The remaining total cost of ownership of the pre-exascale supercomputers shall be covered by the Participating State where the hosting entity is established or by the Participating States in the hosting consortium, possibly supplemented by the contributions referred to in Article 5.

3. Without prejudice to Article 23(4) of the Statutes, at the earliest four years after the successful acceptance test by the Joint Undertaking of the pre-exascale supercomputers installed in a hosting entity, the ownership of the pre-exascale supercomputer may be transferred to that hosting entity, sold to another entity or decommissioned upon decision of the Governing Board and in accordance with the hosting agreement. In the case of transfer of ownership before full depreciation of a pre-exascale supercomputer, the hosting entity shall reimburse the Joint Undertaking the residual value of the supercomputer that is transferred. If there is no transfer of ownership to the hosting entity but a decision for decommissioning, the relevant costs shall be shared equally by the Joint Undertaking and the hosting entity. The Joint Undertaking shall not be liable for any costs incurred after the transfer of ownership of a pre-exascale supercomputer or after its sale or decommissioning.

Article 11

Acquisition and ownership of the petascale supercomputers

1. The Joint Undertaking shall procure, jointly with the contracting authorities of the Participating State where the hosting entity is established or with the contracting authorities of the Participating States in the hosting consortium, the petascale supercomputers and shall co-own them.

2. The Union financial contribution referred to in Article 4(1) shall cover up to 35 % of the acquisition costs of the petascale supercomputers. The remaining total cost of ownership of the petascale supercomputers shall be covered by the Participating State where the hosting entity is established or the Participating States in the hosting consortium, possibly supplemented by the contributions referred to in Article 5.
3. Without prejudice to Article 23(4) of the Statutes, the part of the ownership of the petascale supercomputer owned by the Joint Undertaking shall be transferred to the hosting entity after the full depreciation of the supercomputer. The Joint Undertaking shall not be liable for any costs incurred after the transfer of ownership of a petascale supercomputer.

Article 12

Use of supercomputers

1. The use of supercomputers shall be primarily for research and innovation purposes falling under public funding programmes, shall be open to users from the public and private sectors and shall have an exclusive focus on civil applications.
2. The Governing Board shall define the general access conditions to use the supercomputers in accordance with Article 13 and may define specific access conditions for different types of users or applications. The quality of service shall be the same for all users.

3. Without prejudice to international agreements concluded by the Union, only users residing, established or located in a Member State or in a country associated to Horizon 2020, shall be granted access time, except if decided otherwise by the Governing Board in duly justified cases, taking into account the interests of the Union.

Article 13

Allocation of Union's access time to the supercomputers

1. The share of the Union's access time to each pre-exascale supercomputer shall be directly proportional to the financial contribution of the Union referred to in Article 4(1) to the total cost of ownership of the supercomputer and shall not exceed 50 % of the total access time of the supercomputer.
2. Each Participating State where a hosting entity is established or each Participating State in a hosting consortium shall be allocated a share of the remaining access time to each pre-exascale supercomputer. In the case of a hosting consortium, the Participating States shall agree among themselves the distribution of access time to the pre-exascale supercomputer.
3. The share of the Union's access time to each petascale supercomputer shall be directly proportional to the financial contribution of the Union referred to in Article 4(1) to the acquisition costs of the supercomputer.

4. Each Participating State where a hosting entity is established or each Participating State in a hosting consortium shall be allocated a share of the remaining access time to each petascale supercomputer. In the case of a hosting consortium, the Participating States shall agree among themselves the distribution of access time to the petascale supercomputer.
5. The Governing Board shall define the access rights to the Union's share of access time to the pre-exascale supercomputers and petascale supercomputers and to the Union's share of access time to the national supercomputers.

As a guiding principle, allocation of access time for publicly funded research and innovation activities for any user of a Member State or country associated to Horizon 2020 shall be based on a fair and transparent peer review process following continuously open calls for expression of interest launched by the Joint Undertaking, which shall target users from science, industry, including SMEs, and the public sector. Expressions of interest shall be evaluated by independent experts. As a general rule, Horizon 2020 principles shall guide the criteria to evaluate the user projects submitted in the calls for expression of interest.

6. The Governing Board may grant Union's access time without a call for expression of interest in exceptional cases or in emergency and crisis management situations.

7. Use of the Union's share of access time shall be free of charge for applications related to publicly funded research and innovation activities.
8. The Governing Board shall regularly monitor the Union's access time granted per Member State and country associated to Horizon 2020 and per user category, including for commercial purposes. It may decide to:
 - (a) re-adapt access times per category of activity or user, with the aim to optimise the use capabilities of the petascale and pre-exascale supercomputers;
 - (b) propose additional support measures for providing fair access opportunities to users from all Member States and countries associated to Horizon 2020 that would aim to raise their level of skills and expertise in High Performance Computing systems.

Article 14

Union's access time to supercomputers for commercial purposes

1. Specific conditions shall apply to industrial users applying for the Union's access time to supercomputers for commercial purposes. The commercial service shall be a pay-per-use service, based on market prices. The level of the fee shall be established by the Governing Board.
2. The fees generated by the commercial use of the Union's access time shall constitute revenue to the Joint Undertaking budget and shall be used to cover operational costs of the Joint Undertaking.
3. The access time allocated to commercial services shall not exceed 20 % of the Union's total access time of each petascale supercomputer and each pre-exascale supercomputer. The Governing Board shall decide on the allocation of the Union's access time for the users of commercial services, taking into account the outcome of the monitoring referred to in Article 13(8).
4. The quality of commercial services shall be the same for all users.

Article 15

Financial rules

The Joint Undertaking shall adopt its specific financial rules in accordance with Article 71 of Regulation (EU, Euratom) 2018/1046.

Article 16

Staff

1. The Staff Regulations of Officials and the Conditions of Employment of Other Servants of the European Union laid down in Council Regulation (EEC, Euratom, ECSC) No 259/68¹ ('Staff Regulations' and 'Conditions of Employment') and the rules adopted jointly by the institutions of the Union for the purpose of applying the Staff Regulations and Conditions of Employment shall apply to the staff of the Joint Undertaking.
2. The Governing Board shall exercise, with respect to the staff of the Joint Undertaking, the powers conferred by the Staff Regulations on the Appointing Authority and by the Conditions of Employment on the Authority empowered to conclude contracts ('the appointing authority powers').

The Governing Board shall adopt, in accordance with Article 110 of the Staff Regulations, a decision based on Article 2(1) of the Staff Regulations and on Article 6 of the Conditions of Employment delegating the relevant appointing authority powers to the Executive Director and defining the conditions under which that delegation may be suspended. The Executive Director shall be authorised to sub-delegate those powers.

¹ Regulation (EEC, Euratom, ECSC) No 259/68 of the Council of 29 February 1968 laying down the Staff Regulations of Officials and the Conditions of Employment of Other Servants of the European Communities and instituting special measures temporarily applicable to officials of the Commission (OJ L 56, 4.3.1968, p. 1).

Where exceptional circumstances so require, the Governing Board may by decision temporarily suspend the delegation of the appointing authority powers to the Executive Director and any subsequent sub-delegation of those powers by the latter. In such cases, the Governing Board shall exercise the appointing authority powers itself or shall delegate them to one of its members or to a staff member of the Joint Undertaking other than the Executive Director.

3. The Governing Board shall adopt appropriate implementing rules giving effect to the Staff Regulations and the Conditions of Employment in accordance with Article 110 of the Staff Regulations.
4. The staff resources shall be set out in the staff establishment plan of the Joint Undertaking, indicating the number of temporary posts by function group and by grade, as well as by the number of contract staff expressed in full-time equivalents, in accordance with its annual budget.
5. The staff of the Joint Undertaking shall consist of temporary staff and contract staff.
6. All costs related to staff shall be borne by the Joint Undertaking.

Article 17

Seconded national experts and trainees

1. The Joint Undertaking may make use of seconded national experts and trainees not employed by the Joint Undertaking. The number of seconded national experts expressed in full-time equivalents shall be added to the information on staff resources as referred to in Article 16(4) in accordance with the annual budget.
2. The Governing Board shall adopt a decision laying down rules on the secondment of national experts to the Joint Undertaking and on the use of trainees.

Article 18

Privileges and Immunities

Protocol No 7 on the privileges and immunities of the European Union, annexed to the TEU and to the TFEU, shall apply to the Joint Undertaking and its staff.

Article 19
Liability of the Joint Undertaking

1. The contractual liability of the Joint Undertaking shall be governed by the relevant contractual provisions and by the law applicable to the agreement, decision or contract in question.
2. In the event of non-contractual liability, the Joint Undertaking shall, in accordance with the general principles common to the laws of the Member States, make good any damage caused by its staff in the performance of their duties.
3. Any payment by the Joint Undertaking in respect of the liability referred to in paragraphs 1 and 2, and the costs and expenses incurred in that connection, shall be considered as expenditure of the Joint Undertaking and shall be covered by its resources.
4. The Joint Undertaking shall be solely responsible for meeting its obligations.
5. The Joint Undertaking shall not be liable for the operation of the supercomputers it owns by the hosting entity.

Article 20
Evaluation

1. By 30 June 2022, the Commission shall carry out, with the assistance of independent experts, an interim evaluation of the Joint Undertaking. That evaluation shall assess in particular the level of participation in, and contribution to, the actions by the Participating States, the Private Members and their constituent entities and affiliated entities. The Commission shall prepare a report on that evaluation which comprises conclusions of the evaluation, including those of the independent experts, and observations by the Commission. That report shall include a reference to the publicly available report of the independent experts. The Commission shall send its report to the European Parliament and to the Council by 31 December 2022.
2. On the basis of the conclusions of the interim evaluation referred to in paragraph 1 of this Article, the Commission may act in accordance with Article 6(7) or take any other appropriate action.
3. Within six months after the winding-up of the Joint Undertaking, but no later than two years after the triggering of the winding-up procedure referred to in Article 23 of the Statutes, the Commission shall conduct a final evaluation of the Joint Undertaking. The results of that final evaluation shall be presented to the European Parliament and to the Council.

Article 21

Jurisdiction of the Court of Justice of the European Union and applicable law

1. The Court of Justice of the European Union shall have jurisdiction:
 - (a) pursuant to any arbitration clause contained in agreements or contracts concluded by the Joint Undertaking, or in its decisions;
 - (b) in disputes relating to compensation for damage caused by the staff of the Joint Undertaking in the performance of their duties;
 - (c) in any dispute between the Joint Undertaking and its staff within the limits and under the conditions laid down in the Staff Regulations or the Conditions of Employment.
2. Regarding any matter not covered by this Regulation or by other Union legal acts, the law of the Member State where the seat of the Joint Undertaking is located shall apply.

Article 22

Ex-post audits

1. Ex-post audits of expenditure on actions funded by the Horizon 2020 budget shall be carried out by the Joint Undertaking in accordance with Article 29 of Regulation (EU) No 1291/2013.

2. Ex-post audits of expenditure on activities funded by the CEF budget shall be carried out by the Joint Undertaking in accordance with Article 24 of Regulation (EU) No 1316/2013 as part of CEF actions.
3. The Commission may decide to carry out itself the audits referred to in paragraphs 1 and 2 of this Article. In such cases, it shall do so in accordance with the applicable rules, in particular Regulations (EU, Euratom) 2018/1046, (EU) No 1290/2013, (EU) No 1291/2013 and (EU) No 1316/2013.

Article 23

Protection of the Union's financial interests

1. The Commission shall take appropriate measures to ensure that, when actions financed under this Regulation are implemented, the financial interests of the Union are protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and dissuasive administrative sanctions.

2. The Joint Undertaking shall grant Commission staff and other persons authorised by the Commission, as well as the Court of Auditors, access to its sites and premises and to all the information, including information in electronic format, that is needed in order to conduct their audits.
3. The European Anti-Fraud Office (OLAF) may carry out investigations, including on-the-spot checks and inspections, in accordance with the provisions and procedures laid down in Council Regulation (Euratom, EC) No 2185/96¹ and Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council² with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or a contract funded, directly or indirectly, in accordance with this Regulation.

¹ Council Regulation (Euratom, EC) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15.11.1996, p. 2).

² Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18.9.2013, p. 1).

4. Without prejudice to paragraphs 1, 2 and 3, contracts and grant agreements resulting from the implementation of this Regulation shall contain provisions expressly empowering the Commission, the Joint Undertaking, the Court of Auditors and OLAF to conduct audits and investigations in accordance with their respective competences. Where the implementation of an action is outsourced or sub-delegated, in whole or in part, or where it requires the award of a procurement contract or financial support to a third party, the contract, or grant agreement shall include the contractor's or beneficiary's obligation to impose on any third party involved explicit acceptance of those powers of the Commission, the Joint Undertaking, the Court of Auditors and OLAF.
5. The Joint Undertaking shall ensure that the financial interests of its members are adequately protected by carrying out or commissioning appropriate internal and external controls.
6. The Joint Undertaking shall accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council and the Commission¹. The Joint Undertaking shall adopt the necessary measures to facilitate internal investigations conducted by OLAF.

¹ Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council and the Commission concerning internal investigations by the European Anti-Fraud Office (OLAF) (OJ L 136, 31.5.1999, p. 15).

Article 24
Confidentiality

Without prejudice to Article 25, the Joint Undertaking shall ensure the protection of sensitive information the disclosure of which could damage the interests of its members or of participants in the activities of the Joint Undertaking.

Article 25
Transparency

1. Regulation (EC) No 1049/2001 of the European Parliament and of the Council¹ shall apply to documents held by the Joint Undertaking.
2. The Governing Board may adopt the practical arrangements for implementing Regulation (EC) No 1049/2001.
3. Without prejudice to Article 21 of this Regulation, decisions taken by the Joint Undertaking pursuant to Article 8 of Regulation (EC) No 1049/2001 may form the subject of a complaint to the Ombudsman under the conditions laid down in Article 228 TFEU.

¹ Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents (OJ L 145, 31.5.2001, p. 43).

Article 26

*Rules for participation and dissemination
applicable to indirect actions funded under Horizon 2020*

Regulation (EU) No 1290/2013 shall apply to the indirect actions funded by the Joint Undertaking under Horizon 2020. In accordance with that Regulation, the Joint Undertaking shall be considered as a funding body and shall provide financial support to indirect actions as set out in Article 1 of the Statutes.

Regulation (EU) No 1290/2013 may also apply to the Participating State contributions referred to in point (e) of Article 15(3) of the Statutes.

Article 27

Rules applicable to the activities funded under CEF

Regulation (EU) No 1316/2013 shall apply to the activities funded by the Joint Undertaking under CEF.

Article 28

Support from the host Member State

An administrative agreement may be concluded between the Joint Undertaking and the Member State where its seat is located concerning privileges and immunities and other support to be provided by that State to the Joint Undertaking.

Article 29

Initial Actions

1. The Commission shall be responsible for the establishment and initial operation of the Joint Undertaking until it has the operational capacity to implement its own budget. The Commission shall carry out, in accordance with Union law, all necessary actions in collaboration with the members other than the Union and with the involvement of the competent bodies of the Joint Undertaking.

2. For the purpose of paragraph 1 of this Article:
 - (a) until the Executive Director takes up his or her duties following his or her appointment by the Governing Board in accordance with Article 7 of the Statutes, the Commission may designate a Commission official to act as interim Executive Director and exercise the duties assigned to the Executive Director who may be assisted by a limited number of Commission officials;
 - (b) by derogation from Article 16(2), the interim Director shall exercise the appointing authority powers;
 - (c) the Commission may assign a limited number of its officials on an interim basis.
3. The interim Executive Director may authorise all payments covered by the appropriations provided in the annual budget of the Joint Undertaking once approved by the Governing Board and may conclude agreements, decisions and contracts, including staff contracts following the adoption of the Joint Undertaking's staff establishment plan.
4. The interim Executive Director shall determine, by common accord with the Executive Director of the Joint Undertaking and subject to the approval of the Governing Board, the date on which the Joint Undertaking shall have the capacity to implement its own budget. From that date onwards, the Commission shall abstain from making commitments and executing payments for the activities of the Joint Undertaking.

Article 30
Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Council
The President

ANNEX

STATUTES OF THE EUROPEAN HIGH PERFORMANCE COMPUTING JOINT UNDERTAKING

Article 1

Tasks

The Joint Undertaking shall carry out the following tasks:

- (a) mobilise public and private sector funds for the financing of the activities of the Joint Undertaking;
- (b) launch calls for tenders for the acquisition of pre-exascale supercomputers and acquire at least two world-class pre-exascale supercomputers, funded by the Union's budget stemming from Horizon 2020, CEF and by contributions from the relevant Participating States to the Joint Undertaking;
- (c) launch, jointly with the contracting authorities of the Participating State where the hosting entity is established or with the contracting authorities of Participating States in the hosting consortium, calls for tenders for the acquisition of petascale supercomputers and acquire, jointly with these contracting authorities, at least two petascale supercomputers; this joint procurement shall be funded by the Union's budget stemming from Horizon 2020 and by contributions from the relevant Participating States;

- (d) initiate and manage the calls for expression of interest for hosting petascale and pre-exascale supercomputers and evaluate the offers received, with the support of independent external experts;
- (e) select the hosting entity of the petascale and pre-exascale supercomputers in a fair, open and transparent manner, in accordance with Article 8 of this Regulation;
- (f) conclude a hosting agreement in accordance with Article 9 of this Regulation with the hosting entity for the operation and maintenance of the pre-exascale supercomputers and monitor the contractual compliance with the hosting agreement, including the acceptance test of the acquired supercomputers;
- (g) conclude, jointly with the other co-owners, a hosting agreement in accordance with Article 9 of this Regulation with the hosting entity for the operation and maintenance of the petascale supercomputers and monitor, jointly with the other co-owners, the contractual compliance with the hosting agreement;
- (h) define general and specific conditions for allocating the Union's share of access time to the petascale and pre-exascale supercomputers and monitor access to these supercomputers in accordance with Article 13 of this Regulation;
- (i) define general and specific conditions for allocating access time to national supercomputers and monitor access to these supercomputers in accordance with Article 13 of this Regulation;

- (j) initiate open calls for proposals and award funding in accordance with Regulation (EU) No 1290/2013 and within the limits of available funds, to indirect actions mainly in the form of grants, focusing on:
- (i) the development of the next generation of key High Performance Computing towards exascale addressing the whole spectrum of technologies from low-power microprocessors and related middleware technologies to software, programming models and tools, to novel architectures and their system integration through a co-design approach;
 - (ii) new and upscaling algorithms and codes for existing and emerging innovative applications, test-beds and demonstration activities;
 - (iii) outreach activities, awareness raising actions and professional development activities for attracting human resources to High Performance Computing, training them and increasing skills and engineering know-how of the ecosystem across the Union; this may include coordination and support actions, support to existing or new Centres of Excellence, as well as to the creation of national High Performance Computing competence centres and their wide networking cooperation and activity coordination across the Union;
- (k) monitor the implementation of the actions and manage grant agreements;

- (l) ensure the efficiency of the European High Performance Computing initiative, based on a set of appropriate measures;
- (m) monitor overall progress towards achieving the objectives of the Joint Undertaking;
- (n) develop close cooperation and ensure coordination with Union and national activities, bodies and stakeholders, creating synergies and improving exploitation of research and innovation results in the area of high performance computing;
- (o) define the multiannual strategic plan, draw up and implement the corresponding annual work plans for their execution and make any necessary adjustments to the multiannual strategic plan;
- (p) engage in information, communication, exploitation and dissemination activities by applying *mutatis mutandis* Article 28 of Regulation (EU) No 1291/2013, including making the detailed information on results from calls for proposals available and accessible in a common Horizon 2020 e-database;
- (q) any other task needed to achieve the objectives set out in Article 3 of this Regulation.

Article 2

Members

1. The members of the Joint Undertaking shall be:
 - (a) the Union, represented by the Commission;
 - (b) Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia and Spain;
 - (c) upon acceptance of these Statutes by means of a letter of endorsement, the European Technology Platform for High Performance Computing (ETP4HPC) Association registered under Dutch law with its registered office in Amsterdam (the Netherlands), the Big Data Value Association (BDVA) registered under Belgian law with its registered office in Brussels (Belgium).

2. Each Participating State shall appoint its representative in the Governing Board of the Joint Undertaking and shall designate the national entity or entities responsible for fulfilling its obligations under this Regulation.

Article 3
Changes to membership

1. Provided that they contribute in accordance with Article 6 of this Regulation or to the financing referred to in Article 15 of these Statutes to achieve the objectives of the Joint Undertaking set out in Article 3 of this Regulation, Member States or countries associated to Horizon 2020 that are not listed in point (b) of Article 2(1) shall become members of the Joint Undertaking upon notification to the Governing Board of their written acceptance of these Statutes and of any other provisions governing the functioning of the Joint Undertaking.

2. Provided that it contributes to the financing referred to in Article 15 of these Statutes to achieve the objectives of the Joint Undertaking set out in Article 3 of this Regulation, and accept these Statutes, any legal entity established in a Member State or a country associated to Horizon 2020 that directly or indirectly supports research and innovation in a Member State or in a country associated to Horizon 2020 may apply to become a member of the Joint Undertaking.

3. Any application for membership in the Joint Undertaking made in accordance with paragraph 2 shall be addressed to the Governing Board. The Governing Board shall assess the application, taking into account the relevance and the potential added value of the applicant as regards the achievement of the objectives of the Joint Undertaking and shall decide on the application.
4. Any member may terminate its membership in the Joint Undertaking. Such termination shall become effective and irrevocable six months after notification to the Executive Director, who shall inform the other members of the Governing Board and the Private Members. As from the date of termination, the former member shall be discharged from any obligations other than those approved or incurred by the Joint Undertaking prior to the notification of termination of the membership.
5. Membership in the Joint Undertaking may not be transferred to a third party without the prior agreement of the Governing Board.
6. Upon any change to membership pursuant to this Article, the Joint Undertaking shall immediately publish on its website an updated list of members together with the date of such change.

Article 4
Bodies of the Joint Undertaking

The bodies of the Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the Industrial and Scientific Advisory Board composed of the Research and Innovation Advisory Group and the Infrastructure Advisory Group.

Article 5
Composition of the Governing Board

1. The Governing Board shall be composed of representatives of the Commission, on behalf of the Union, and of the Participating States.
2. The Commission and each Participating State shall appoint one representative in the Governing Board. Each representative may be accompanied by one expert.

Article 6
Functioning of the Governing Board

1. The representatives of the members of the Governing Board shall make every effort to achieve consensus. Failing consensus, a vote shall be held.
2. The Union shall hold 50 % of the voting rights. The voting rights of the Union shall be indivisible.
3. For the tasks referred to in Article 7(3), the remaining 50 % of the voting rights shall be distributed equally among all Participating States.

For the purpose of this paragraph, decisions of the Governing Board shall be taken by a majority of at least 75 % of all votes, including the votes of the members who are absent.

4. For the tasks referred to in Article 7(4), except points (g), (h) and (i), the remaining 50 % of the voting rights shall be held by the Participating States that are Member States.

For the purpose of this paragraph, decisions of the Governing Board shall be taken by a qualified majority. Qualified majority shall be deemed established if it represents the Union and at least 55 % of the Participating States that are Member States, comprising at least 65 % of the total population of these States. To determine the population, the figures set out in Annex III to Council Decision 2009/937/EU¹ shall be used.

¹ Council Decision 2009/937/EU of 1 December 2009 adopting the Council's Rules of Procedure (OJ L 325, 11.12.2009, p. 35).

5. For those tasks referred to in Article 7(4) points (g), (h) and (i), and for each supercomputer, the voting rights of the Participating States shall be distributed in proportion to their committed financial contributions and to their in-kind contributions to that supercomputer until either its ownership is transferred to the hosting entity in accordance with Article 8(3) of this Regulation or until it is sold or decommissioned ; the in-kind contributions shall only be taken into account if they have been certified ex-ante by an independent expert or auditor.

For the purpose of this paragraph, decisions of the Governing Board shall be taken by a majority of at least 75 % of all votes, including the votes of the members who are absent.

6. For the tasks referred to in Article 7(5), decisions of the Governing Board shall be taken in two stages.

At the first stage, the remaining 50 % of the voting rights shall be distributed equally among all Participating States. Decisions of the Governing Board shall be taken by a majority consisting of the Union's vote and at least 55 % of all votes of the Participating States, including the votes of the members who are absent.

At the second stage, the Governing Board shall decide by the qualified majority referred to in paragraph 4 of this Article.

7. The Governing Board shall elect a chair for a period of two years. The mandate of the chairperson may be extended only once, following a decision by the Governing Board.

8. The Governing Board shall hold its ordinary meetings at least twice a year. It may hold extraordinary meetings at the request of the Commission, of a majority of the representatives of the Participating States, at the request of the chair, or at the request of the Executive Director in accordance with Article 15(5). The meetings of the Governing Board shall be convened by its chair and shall usually take place at the seat of the Joint Undertaking.

The Executive Director shall take part in the deliberations, unless decided otherwise by the Governing Board, but shall have no voting rights. The Governing Board may invite, on a case-by-case basis, other persons to attend its meetings as observers.

Each observer State may appoint one delegate in the Governing Board, who shall receive all relevant documents and may participate in the deliberations on any decision taken by the Governing Board. Those delegates shall have no voting rights and shall ensure the confidentiality of sensitive information according to Article 24 of this Regulation.

9. The representatives of the members of the Governing Board shall not be personally liable for actions carried out in their capacity as representatives on the Governing Board.
10. The Governing Board shall adopt its own rules of procedure. Those rules shall include specific procedures for identifying and avoiding conflicts of interest and ensure the confidentiality of sensitive information.

11. The chair of the Research and Innovation Advisory Group, as well as the chair of the Infrastructure Advisory Group, shall have the right, whenever issues falling within their tasks are discussed, to attend meetings of the Governing Board as observers and take part in its deliberations, but shall have no voting rights.

Article 7

Tasks of the Governing Board

1. The Governing Board shall have overall responsibility for the strategic orientation and the operations of the Joint Undertaking and shall supervise the implementation of its activities. It shall ensure that the principles of fairness and transparency are properly applied in the allocation of public funding.
2. The Commission, in its role in the Governing Board, shall seek to ensure coordination between the activities of the Joint Undertaking and the relevant activities of Union funding programmes with a view to promoting synergies when developing an integrated supercomputing and data infrastructure ecosystem and when identifying priorities covered by collaborative research.

3. The Governing Board shall, in particular, carry out the following general administrative tasks of the Joint Undertaking:
- (a) assess, accept or reject applications for membership in accordance with Article 3(2) of these Statutes;
 - (b) decide on the termination of membership in the Joint Undertaking of any member that does not fulfil its obligations;
 - (c) adopt the financial rules of the Joint Undertaking in accordance with Article 15 of this Regulation;
 - (d) adopt the annual administrative budget of the Joint Undertaking, including the corresponding staff establishment plan indicating the number of temporary posts by function group and by grade, the number of contract staff and seconded national experts expressed in full-time equivalents;
 - (e) exercise the appointing authority powers with respect to staff, in accordance with Article 16(2) of this Regulation;
 - (f) appoint, dismiss, extend the term of office of, provide guidance to and monitor the performance of the Executive Director;

- (g) approve the organisational structure of the Programme Office set up under Article 9(5) of these Statutes upon recommendation of the Executive Director;
- (h) approve the annual activity report, including the corresponding expenditure referred to in Article 19(1) of these Statutes;
- (i) arrange, as appropriate, for the establishment of an internal audit capability of the Joint Undertaking upon recommendation by the Executive Director;
- (j) establish the Joint Undertaking's communication policy upon recommendation by the Executive Director;
- (k) where appropriate, establish implementing rules to the Staff Regulations and the Conditions of Employment in accordance with Article 16(3) of this Regulation;
- (l) where appropriate, lay down rules on the secondment of national experts to the Joint Undertaking and on the use of trainees in accordance with Article 17(2) of this Regulation;
- (m) where appropriate, set up advisory groups in addition to the bodies of the Joint Undertaking referred to in Article 4 of these Statutes;
- (n) where appropriate, submit to the Commission a request to amend this Regulation proposed by a member of the Joint Undertaking;

- (o) approve the model hosting agreement to be annexed to the calls for expression of interest for the selection of the hosting entity;
- (p) define the general and specific access conditions to use the Union's share of access time of the petascale and pre-exascale supercomputers and of the access time provided by the national supercomputers in accordance with Article 13 of this Regulation;
- (q) monitor regularly the implementation of the hosting agreements with the hosting entities;
- (r) establish the level of the fee of the commercial services referred to in Article 14 of this Regulation, and decide on the allocation of the access time for those services;
- (s) be responsible for any task that is not specifically allocated to a particular body of the Joint Undertaking; it may assign such tasks to any body of the Joint Undertaking.

4. The Governing Board shall, in particular, carry out the following tasks related to the acquisition and operation of the petascale and pre-exascale supercomputers and generated revenues referred to in Article 14 of this Regulation:

- (a) adopt the multiannual strategic agenda for the acquisition of supercomputers referred to in Article 18(1) of these Statutes;

- (b) adopt the part of the annual work plan that is related to the acquisition of supercomputers and the selection of hosting entities and the corresponding expenditure estimates referred to in Article 18(2) of these Statutes;
- (c) approve the launch of calls for expression of interest, in accordance with the annual work plan;
- (d) approve the selection of the hosting entities for the pre-exascale and petascale supercomputers selected through a fair, open and transparent process in accordance with Article 8 of this Regulation;
- (e) approve the hosting agreement;
- (f) decide annually on the use of any revenue generated by the fees for commercial services referred to in Article 14 of this Regulation;
- (g) approve the launch of calls for tenders, in accordance with the annual work plan;
- (h) approve the tenders selected for funding;
- (i) decide on the possible transfer of ownership of the pre-exascale supercomputers to a hosting entity, their sale to another entity or their decommissioning, in accordance with Article 10(3) of this Regulation.

5. The Governing Board shall, in particular, carry out the following tasks related to the research and innovation activities of the Joint Undertaking:

- (a) adopt the multiannual strategic research and innovation agenda referred to in Article 18(1);
- (b) adopt the part of the annual work plan that is related to the research and innovation activities and the corresponding expenditure estimates referred to in Article 18(2);
- (c) approve the launch of calls for proposals, in accordance with the annual work plan;
- (d) approve the list of actions selected for funding on the basis of the ranking list produced by a panel of independent experts.

Article 8

Appointment, dismissal or extension of the term of office of the Executive Director

1. The Executive Director shall be appointed by the Governing Board from a list of candidates proposed by the Commission following an open and transparent selection procedure. The Commission may associate the representation from the members other than the Union of the Joint Undertaking in the selection procedure, as appropriate.

In particular, an appropriate representation of the members other than the Union of the Joint Undertaking may be ensured at the pre-selection stage of the selection procedure. For that purpose, the Participating States shall appoint by common accord a representative as well as an observer on behalf of the Governing Board.

2. The Executive Director shall be a member of staff and shall be engaged as a temporary agent of the Joint Undertaking under point (a) of Article 2 of the Conditions of Employment.

For the purpose of concluding the contract of the Executive Director, the Joint Undertaking shall be represented by the chair of the Governing Board.

3. The term of office of the Executive Director shall be four years. By the end of that period, the Commission, associating the members other than the Union as appropriate, shall undertake an assessment of the performance of the Executive Director and the Joint Undertaking's future tasks and challenges.
4. The Governing Board, acting on a proposal from the Commission which takes into account the assessment referred to in paragraph 3, may extend the term of office of the Executive Director once, for a period of no more than four years.
5. An Executive Director whose term of office has been extended may not participate in another selection procedure for the same post at the end of the overall period.
6. The Executive Director may be dismissed only upon a decision of the Governing Board pursuant to point (f) of Article 7(3) acting on a proposal from the Commission associating the members other than the Union as appropriate.

Article 9
Tasks of the Executive Director

1. The Executive Director shall be the chief executive responsible for the day-to-day management of the Joint Undertaking in accordance with the decisions of the Governing Board.
2. The Executive Director shall be the legal representative of the Joint Undertaking. The Executive Director shall be accountable to the Governing Board and perform his or her duties with complete independence within the powers assigned to him or her.
3. The Executive Director shall implement the budget of the Joint Undertaking.
4. The Executive Director shall carry out, in particular, the following tasks in an independent manner:
 - (a) consolidate and submit for adoption to the Governing Board the draft multiannual strategic plan referred to in Article 18(1);
 - (b) prepare and submit to the Governing Board for adoption the draft annual budget, including the corresponding staff establishment plan indicating the number of temporary posts in each grade and function group and the number of contract staff and seconded national experts expressed in full-time equivalents;

- (c) prepare and submit to the Governing Board for adoption the draft annual work plan including the scope of the calls for proposals, calls for expression of interest and calls for tenders needed to implement the research and innovation activities plan and procurement plans, as proposed by the Industrial and Scientific Advisory Board, and the corresponding expenditure estimates, as proposed by the Participating States and the Commission;
- (d) submit for opinion to the Governing Board the annual accounts;
- (e) prepare and submit for approval to the Governing Board the annual activity report, including the information on corresponding expenditure;
- (f) sign individual grant agreements, decisions and contracts;
- (g) sign procurement contracts;
- (h) monitor the operations of the petascale and pre-exascale supercomputers owned or funded by the Joint Undertaking, including the allocation of the Union's share of access time, compliance with the access rights for academic and industrial users and quality of provided services;
- (i) implement the Joint Undertaking's communication policy;

- (j) organise, direct and supervise the operations and the staff of the Joint Undertaking within the limits of the delegation by the Governing Board as provided for in Article 16(2) of this Regulation;
- (k) establish and ensure the functioning of an effective and efficient internal control system and report any significant change to it to the Governing Board;
- (l) ensure that risk assessment and risk management are performed;
- (m) take any other measures needed to assess the progress of the Joint Undertaking towards its objectives as set out in Article 3 of this Regulation;
- (n) perform any other tasks entrusted or delegated to the Executive Director by the Governing Board.

5. The Executive Director shall set up a Programme Office for the execution, under his or her responsibility, of all support tasks arising from this Regulation. The Programme Office shall be composed of the staff of the Joint Undertaking and shall in particular carry out the following tasks:

- (a) provide support in establishing and managing an appropriate accounting system in accordance with the financial rules referred to in Article 15 of this Regulation;

- (b) manage the calls for proposals as provided for in the annual work plan and administer the grant agreements and decisions;
- (c) manage the calls for tenders as provided for in the annual work plan and administer the contracts;
- (d) manage the process for the selection of the hosting entities and administer the hosting agreements;
- (e) provide the members and the other bodies of the Joint Undertaking with all relevant information and support necessary for them to perform their duties, as well as respond to their specific requests;
- (f) act as the secretariat of the bodies of the Joint Undertaking and provide support to advisory groups set up by the Governing Board.

Article 10

Composition of the Industrial and Scientific Advisory Board

1. The Industrial and Scientific Advisory Board shall be composed of a Research and Innovation Advisory Group and an Infrastructure Advisory Group.
2. The Research and Innovation Advisory Group shall consist of no more than twelve members, whereof no more than six shall be appointed by the Private Members taking into account their commitments to the Joint Undertaking and no more than six shall be appointed by the Governing Board. The Governing Board shall establish the specific criteria and selection process for the members it appoints.
3. The Infrastructure Advisory Group shall consist of no more than twelve members. The Governing Board shall establish the specific criteria and selection process and shall appoint its members.

Article 11

Functioning of the Research and Innovation Advisory Group

1. The Research and Innovation Advisory Group shall meet at least twice a year.
2. The Research and Innovation Advisory Group may appoint working groups where necessary under the overall coordination of one or more members.
3. The Research and Innovation Advisory Group shall elect its chair.
4. The Research and Innovation Advisory Group shall adopt its rules of procedure, including the nomination of the constituent entities that shall represent the Advisory Group and the duration of their nomination.

Article 12

Functioning of the Infrastructure Advisory Group

1. The Infrastructure Advisory Group shall meet at least twice a year.
2. The Infrastructure Advisory Group may appoint working groups where necessary under the overall coordination of one or more members.
3. The Infrastructure Advisory Group shall elect its chair.

4. The Infrastructure Advisory Group shall adopt its rules of procedure, including the nomination of the constituent entities that shall represent the Advisory Group and the duration of their nomination.

Article 13

Tasks of the Research and Innovation Advisory Group

The Research and Innovation Advisory Group shall:

- (a) draw up and regularly update the draft multiannual strategic research and innovation agenda referred to in Article 18(1) of these Statutes for achieving the objectives of the Joint Undertaking set out in Article 3 of this Regulation. This draft multiannual strategic research and innovation agenda shall identify research and innovation priorities for the development and adoption of technologies and key competences for High Performance Computing across different application areas in order to support the development of an integrated High Performance Computing ecosystem in the Union, strengthen competitiveness and help create new markets and societal applications. It shall be reviewed regularly in accordance with the evolution of the scientific and industrial demand;
- (b) submit to the Executive Director the draft multiannual strategic research and innovation agenda as a basis for drafting the annual work plan within the deadlines set by the Governing Board;

- (c) organise public consultations open to all public and private stakeholders having an interest in the field of High Performance Computing, to inform them about and collect feedback on the draft multiannual strategic research and innovation agenda and the draft research and innovation activities plan for a given year.

Article 14

Tasks of the Infrastructure Advisory Group

The Infrastructure Advisory Group shall provide advice to the Governing Board for the acquisition and operation of the petascale and pre-exascale supercomputers. For this purpose, it shall:

- (a) draw up and regularly update the draft multiannual strategic agenda for the acquisition of the petascale and pre-exascale supercomputers referred to in Article 18(1) of these Statutes for achieving the objectives of the Joint Undertaking set out in Article 3 of this Regulation. The draft multiannual strategic agenda for the acquisition of the petascale and pre-exascale supercomputers shall include the specifications for the selection of the hosting entities and the planning for the acquisition of infrastructure; for this purpose, it shall identify, *inter alia*, needed capacity increases, the types of applications and user communities to be addressed, the system architectures, and the integration with national High Performance Computing infrastructures;

- (b) submit to the Executive Director the draft multiannual strategic agenda for the acquisition of the petascale and pre-exascale supercomputers as a basis for drafting the annual work plan within the deadlines set by the Governing Board;
- (c) organise public consultations open to all public and private stakeholders having an interest in the field of High Performance Computing, to inform them about and collect feedback on the draft multiannual strategic agenda for the acquisition of the petascale and pre-exascale supercomputers and the related draft activities plan for a given year.

Article 15

Sources of financing

1. The Joint Undertaking shall be jointly funded by its members through financial contributions paid in instalments and in-kind contributions as set out in paragraphs (2) and (3).
2. The administrative costs of the Joint Undertaking shall not exceed EUR 22 000 000 and shall be covered by means of the financial contributions referred to in Articles 4(1), 6(1) and 6(2) of this Regulation.

The contribution of each Participating State to the administrative costs of the Joint Undertaking shall be proportional to the share of their actual contribution to the operational costs of the Joint Undertaking set out in points (b) to (e) of paragraph (3) of this Article.

If part of the contribution for administrative costs is not used, it may be made available to cover the operational costs of the Joint Undertaking.

3. The operational costs of the Joint Undertaking shall be covered by means of:
 - (a) the Union's financial contribution;
 - (b) financial contributions by the Participating State where the hosting entity is established or by the Participating States in a hosting consortium to the Joint Undertaking for the acquisition of the pre-exascale supercomputers and for their operation until their ownership is transferred to the hosting entity, they are sold or decommissioned in accordance with Article 10(3) of this Regulation, less the contributions by the Joint Undertaking and any other Union contribution to those costs;
 - (c) in-kind contributions by the Participating State where the hosting entity is established or by the Participating States in a hosting consortium consisting of the operating costs of the pre-exascale supercomputers owned by the Joint Undertaking, incurred by the hosting entities, less the contributions by the Joint Undertaking and any other Union contribution to those costs;

- (d) financial contributions by the Participating State where the hosting entity is established or by the Participating States in a hosting consortium consisting of the costs incurred for the acquisition, jointly with the Joint Undertaking, of the petascale supercomputers, less the contributions by the Joint Undertaking and any other Union contribution to those costs;
- (e) financial contributions by Participating States to the eligible costs incurred by beneficiaries established in that Participating State in implementing indirect actions corresponding to the research and innovation agenda as a complement to the reimbursement of these costs made by the Joint Undertaking, less the contributions by the Joint Undertaking and any other Union contribution to those costs;
- (f) in-kind contributions by the Private Members or their constituent entities and affiliated entities consisting of the costs incurred by them in implementing indirect actions corresponding to the research and innovation agenda, less the contributions by the Joint Undertaking, any other Union contribution to those costs and the contributions referred to in point (e).

4. The resources of the Joint Undertaking entered in its budget shall be composed of the following contributions:

- (a) members' financial contributions to the administrative costs;
- (b) members' financial contributions to the operational costs;

- (c) any revenue generated by the Joint Undertaking;
- (d) any other financial contributions, resources and revenues.

Any interest yielded by the contributions paid to the Joint Undertaking shall be considered to be its revenue.

5. Should any member of the Joint Undertaking be in default of its commitments concerning its financial contribution, the Executive Director shall put this in writing and shall set a reasonable period within which such default shall be remedied. If the situation is not remedied within that period, the Executive Director shall convene a meeting of the Governing Board to decide whether the defaulting member's membership is to be revoked or whether any other measures are to be taken until its obligations have been met. The defaulting member's voting rights shall be suspended until the default of its commitments is remedied.
6. The resources and activities of the Joint Undertaking shall be intended for the achievement of the objectives set out in Article 3 of this Regulation.
7. The Joint Undertaking shall own all assets generated by it or transferred to it for the achievement of its objectives set out in Article 3 of this Regulation. This shall not include the supercomputers whose ownership the Joint Undertaking has transferred to a hosting entity in accordance with Article 10(3) of this Regulation.

8. Except when the Joint Undertaking is wound up, any excess revenue over expenditure shall not be paid to the members of the Joint Undertaking.

Article 16

Financial commitments

The financial commitments of the Joint Undertaking shall not exceed the amount of financial resources available or committed to its budget by its members.

Article 17

Financial year

The financial year shall run from 1 January to 31 December.

Article 18

Operational and financial planning

1. The multiannual strategic plan shall specify the strategy and plans for achieving the objectives of the Joint Undertaking set out in Article 3 of this Regulation. The multiannual strategic plan shall be composed of a multiannual strategic research and innovation agenda and a multiannual strategic agenda for the acquisition of supercomputers drafted by the Industrial and Scientific Advisory Board and multiannual financial perspectives received from the Participating States and the Commission.

2. The Executive Director shall submit to the Governing Board for adoption a draft annual work plan which shall include the research and innovation activities, the procurement activities, the administrative activities and the corresponding expenditure estimates.
3. The annual work plan shall be adopted by the end of the year prior to its implementation. The annual work plan shall be made publicly available.
4. The Executive Director shall prepare the draft annual budget for the following year and shall submit it to the Governing Board for adoption.
5. The annual budget for a particular year shall be adopted by the Governing Board by the end of the previous year.
6. The annual budget shall be adapted in order to take into account the amount of the Union's financial contribution as set out in the general budget of the Union.

Article 19
Operational and financial reporting

1. The Executive Director shall report annually to the Governing Board on the performance of the duties of the Executive Director in accordance with the financial rules of the Joint Undertaking referred to in Article 15 of this Regulation.

Within two months of the closure of each financial year, the Executive Director shall submit to the Governing Board for approval an annual activity report on the progress made by the Joint Undertaking in the previous financial year, in particular in relation to the annual work plan for that year. The annual activity report shall include, *inter alia*, information on the following matters:

- (a) research, innovation and other actions carried out and the corresponding expenditure;
- (b) acquisition and operation of infrastructure, including the use of and access to the infrastructure, including the access time effectively used by each Participating State;
- (c) the proposals and tenders submitted, including a breakdown by participant type, including SMEs, and by country;

- (d) the proposals selected for funding, with a breakdown by participant type, including SMEs, and by country, and indicating the contributions of the Joint Undertaking to the individual participants and actions;
 - (e) the tenders selected for funding, with a breakdown by type of contractor, including SMEs, and by country, and indicating the contributions of the Joint Undertaking to the individual contractors and procurement actions;
 - (f) the outcome of the procurement activities;
 - (g) progress towards the achievement of the objectives set out in Article 3 of this Regulation and proposals for further necessary work to achieve these objectives.
2. Once approved by the Governing Board, the annual activity report shall be made publicly available.
 3. By 1 March of the following financial year, the accounting officer of the Joint Undertaking shall send the provisional accounts to the Commission's accounting officer and to the Court of Auditors.

By 31 March of the following financial year, the Joint Undertaking shall send the report on the budgetary and financial management to the European Parliament, to the Council and to the Court of Auditors.

On receipt of the Court of Auditors' observations on the Joint Undertaking's provisional accounts pursuant to Article 246 of Regulation (EU, Euratom) 2018/1046, the accounting officer of the Joint Undertaking shall draw up the Joint Undertaking's final accounts and the Executive Director shall submit them to the Governing Board for an opinion.

The Governing Board shall deliver an opinion on the Joint Undertaking's final accounts.

The Executive Director shall, by 1 July of the following financial year, send the final accounts to the European Parliament, to the Council, to the Commission and to the Court of Auditors, together with the Governing Board's opinion.

The final accounts shall be published in the *Official Journal of the European Union* by 15 November of the following financial year.

The Executive Director shall provide the Court of Auditors with a reply to observations made in its annual report by 30 September of the following financial year. The Executive Director shall also submit that reply to the Governing Board.

The Executive Director shall submit to the European Parliament, at the latter's request, any information required for the smooth application of the discharge procedure for the financial year in question, in accordance with Article 261(3) of Regulation (EU, Euratom) 2018/1046.

Article 20
Internal audit

The Commission's internal auditor shall exercise the same powers over the Joint Undertaking as those exercised in respect of the Commission.

Article 21
Liability of members and insurance

1. The financial liability of the members of the Joint Undertaking for the debts of the Joint Undertaking shall be limited to their contributions already made to the administrative costs.
2. The Joint Undertaking shall take out and maintain appropriate insurance.

Article 22
Conflict of interest

1. The Joint Undertaking, its bodies and staff shall avoid any conflict of interest in carrying out their activities.
2. The Governing Board shall adopt rules for the prevention and management of conflicts of interest in respect of its members, bodies and staff. Those rules shall contain provisions intended to avoid a conflict of interest in respect of the representatives of the members of the Joint Undertaking serving on the Governing Board. To this effect, the rules for the prevention and management of conflicts of interest in the bodies of the Joint Undertaking shall take into account the relevant measures applied by the Commission for experts providing advice on the implementation of Union research and innovation programmes.

Article 23
Winding-up

1. The Joint Undertaking shall be wound up at the end of the period laid down in Article 1 of this Regulation.
2. However, the winding-up procedure shall be automatically triggered if the Union or all members other than the Union withdraw from the Joint Undertaking.

3. For the purpose of conducting the proceedings to wind up the Joint Undertaking, the Governing Board shall appoint one or more liquidators, who shall comply with the decisions of the Governing Board.
4. When the Joint Undertaking is being wound up, its assets shall be used to cover its liabilities and the expenditure relating to its winding-up. The supercomputers owned by the Joint Undertaking shall be transferred to the respective hosting entities, sold or decommissioned upon decision of the Governing Board and in accordance with the hosting agreement. The members of the Joint Undertaking shall not be liable for any costs incurred after the transfer of ownership of a supercomputer or its sale or decommissioning. In case of transfer of ownership, the hosting entity shall reimburse the Joint Undertaking the residual value of the supercomputers that are transferred. Any surplus shall be distributed among the members at the time of the winding-up in proportion to their financial contribution to the Joint Undertaking. Any such surplus distributed to the Union shall be returned to the general budget of the Union.
5. An *ad hoc* procedure shall be set up to ensure the appropriate management of any agreement concluded or decision adopted by the Joint Undertaking, as well as any procurement contract with a duration longer than the duration of the Joint Undertaking.
