RECOVERY AND RESILIENCE FACILITY – STATE AID

Guiding template: Cloud capabilities

Link to European Flagship: Scale Up

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I. Objective of the guiding template

1. The outbreak of the coronavirus pandemic has changed the economic outlook for the years to come in the European Union. Investments and reforms are needed more than ever to ensure convergence and a sustainable economic recovery. Carrying out reforms and investing in the EU's common priorities, notably green, digital and social resilience will help create jobs and sustainable growth, while modernising our economies, and allow the Union to recover in a balanced, forward-looking and sustained manner.
2. The Recovery and Resilience Facility ("the Facility") aims at mitigating the economic and social impact of the coronavirus pandemic and at making the EU economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the twin green and digital transitions.
3. State aid rules apply in the framework of the Facility. Member States should therefore ensure that all investments comply with EU State aid rules and follow all regular procedures and rules[1].
4. With this guiding template, DG Competition aims at assisting Member States upfront with the design and preparation of the State aid elements of their recovery plans, and to provide guidance on the State aid-related aspects of those investments which are expected to be most common.
5. The investments covered by this guiding template have been chosen in line with the European flagships of the Commission's Annual Sustainable Growth Strategy 2021.[2] These flagships, which will result in tangible benefits for the economy and citizens across the EU, aim at strengthening economic and social resilience, addressing issues that are common to all Member States, need significant investments, create jobs and growth and are needed for the digital-green twin transition. Pursuing these flagships will contribute to the success of the recovery of Europe.
6. The guiding template follows a uniform structure, providing sector-specific guidance as to when:

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[1] Commission staff working document - Guidance to Member States Recovery and Resilience Plans - Part 1. Also the relevant public procurement rules must be respected, where applicable.

[2] Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank — Annual Sustainable Growth Strategy 2021, COM/2020/575 final.

i. Instances in which the existence of State aid may be excluded, and therefore a prior notification to the Commission is not necessary;

ii. State aid would be involved but no notification is necessary, and specific rules may apply (in case of aid exempted from the notification obligation); and

iii. State aid would be involved and a notification is necessary, with reference to the main applicable State aid rules.

7. The guiding template also contains 'boxes' with examples of the State aid assessment of the investments and reforms contained in the components published by the Commission,[3] per flagship. The aim is merely illustrative, to provide additional clarifications to Member States on the State aid assessment contained in those components.

II. Description of the investments

8. Cloud capabilities refers to cloud and edge capabilities for data processing, which can be central and/or distributed. Data processing can be of different levels of intensity, from data storage to the processing of data on platforms or in applications[4]. Edge computing is a distributed computing paradigm that brings computation and data storage closer to the location where it is needed, to improve response times and save bandwidth.

9. The objective of investments in cloud and edge capabilities is to strengthen Europe's innovative performance in developing and deploying the **next generation of data processing**, which requires cloud and edge capabilities. These investments directly contribute to the *Scale Up* flagship[5] and to the EU digital transition and should help achieving EU sustainability objectives. They should also facilitate the increase of the share of EU companies using advanced cloud services and big data by 2025, as anchored in the 2021 Annual Sustainable Growth Strategy.

10. In general, investments in cloud and edge capabilities can be categorized according to the following categories:

- **Cloud and edge infrastructures** (e.g. data centres, edge nodes, servers, racks, interconnection cables, hardware), and, related thereto, **new technologies for environmental sustainability that are embedded** into the existing and new cloud and edge infrastructures (such as for waste (heat) recycling or re-use, or for increasing energy efficiency within data centres such as via immerse liquid technics, and in data transmission, such as for low power data lightening processes);

  - Low power, interoperable[6] and open source cloud stack[7] **middleware**; and

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[3] Available at https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en#example-of-component-of-reforms-and-investments.

[4] Data storage (Infrastructure-as-a-Service (IaaS)); processing of data on platforms (Platform-as-a-Service (PaaS)); processing of data in applications (Software-as-a-Service (SaaS); Regulation 2018/1807 on a framework for the free flow of non-personal data in the European Union, OJ L 303, 28.11.2018, p. 59.

[5] See https://ec.europa.eu/info/files/examples-component-reforms-and-investment-scale_en.

[6] Interoperability is necessary to enable multi-vendor usage and seamless switching of cloud applications and porting of data.

- **Cloud and edge** (data processing) **services**[8].

11. Under certain conditions, these investments could (at instances partially) qualify for receiving State aid, as further detailed below. In principle, State aid supporting these investments could take different forms, in particular grants, repayable advances or risk finance measures. Less likely, although not excluded, is aid in the form of tax measures.

III. Instances in which the existence of State aid may be excluded

12. The following sections present a comprehensive, but not exhaustive, number of separate instances in which the application of State aid rules or the existence of State aid may be excluded. Given the cumulative nature of the criteria of Article 107(1) TFEU, if one of the following criteria is not met, the presence of State aid can be excluded and therefore there is no need to notify the measure to the Commission prior to its implementation.

13. For investments in infrastructure (e.g. a data centre that is open for use by third parties), it must be assessed whether or not State aid is present at the levels of the owner, the operator, and the users[9].

A. No economic activity

14. Aid for activities that are not of an economic nature[10], i.e. that are not used for offering goods or services on the market, would not be considered State aid. For instance, the funding of investments that are to be used exclusively by public administrations and are not meant to be commercially exploited is excluded from the application of State aid rules. This concerns, for instance, cases where public funding is allocated to build infrastructure to satisfy the own needs of the public administration in carrying out its public duties, such as to connect only public authorities among themselves, and is not used for any commercial exploitation. However, if such infrastructure is made available for commercial use, the public financing of such infrastructure may constitute State aid.

15. If infrastructure is used for both economic and non-economic activities, public funding thereof will fall under State aid rules only insofar as it covers the costs linked to the economic activities in question. To avoid falling under State aid rules as concerns economic activities, Member States have to ensure that the public funding provided for the non-economic activities cannot be used to cross-subsidise the economic activities, for instance by ensuring that the entity using the infrastructure for commercial purposes pays a market price for this use of the infrastructure and by limiting the public funding

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[7] E.g. Operating system, Application Programming Interfaces (APIs) and workloads optimization process, that also encompasses the edge. Middleware could, in a simplified manner, be seen as the software layer between the hardware and the application software. The operating system is an example of middleware.

[8] E.g. SaaS, PaaS, IaaS, data and software services (Proposal of revised Directive on security of network and information systems (NIS2) 2020/0359). Cloud computing services should cover services that allow on-demand and broad remote access to a scalable and elastic pool of shareable and distributed computing resources. Cloud and edge services could be e.g. for training AI, for machine learning, for processing in real time traffic data for autonomous driving, for industrial scale applications and test-beds.

[9] See chapter 7 of the Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union (“Notice on the notion of State aid”), OJ C 262, 19.7.2016, p. 1.

[10] See paragraph 201 *et seq*. of the Notice on the notion of State aid.

only to the net cost of the non-economic activities, to be identified based on a clear separation of accounts.[11]

16. On the digitalisation of public administrations, the State aid guiding template linked to the *Modernise* flagship (State aid guiding template "Digitalisation of public administration, including healthcare") should be consulted[12].

B. No State resources

17. Measures that do not involve the transfer of public resources[13] exclude the existence of State aid.[14]

> See the State aid assessment of the additional examples of investments and reforms contained in the component – Scale Up
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> **Investment B2 – Stimulate the emergence and deployment of the next generation of federated and competitive European cloud to edge services and platforms, leveraging existing initiatives, which respond to new end users' needs in times of post-recovery:** *The envisaged public support measures may amount to State aid depending on the specific structure and purposes of the project if such investments are provided via Member States or, more generally, if they entail public resources.*

C. No selectivity

18. Measures that are of general application and do not favour certain undertakings, or the production of certain goods, are not selective and do not constitute State aid. This can be the case, for example, of a general reform of a tax or of the social security contributions under certain conditions.

19. Given the investments assessed in this guiding template, it is however very unlikely that support measures specifically directed at investments in cloud and edge infrastructure, middleware, and cloud and edge services would be deemed non-selective.

D. No advantage

20. An economic benefit would not amount to State aid when the State acts under normal market conditions, i.e. under the same terms and conditions as a private operator in a comparable situation (so-called Market Economy Operator test).

21. If a public authority invests in cloud and edge capabilities under terms comparable to those that a private investor operating under normal market conditions would apply, then State aid would not be involved.[15]

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[11] See paragraph 206 of the Notice on the notion of State aid.

[12] Available at https://ec.europa.eu/competition/state_aid/what_is_new/template_RFF_digitalisation_of_public_administration.pdf.

[13] The concept of 'transfer of public resources' covers many forms, such as direct grants, loans, guarantees, direct investment in the capital of companies and benefits in kind. A positive transfer of funds does not have to occur; foregoing State revenue is sufficient. In addition, the measure must be imputable to the State. See Notice on the notion of State aid, section 3.

[14] See Notice on the notion of State aid, paragraph 51. Note that funds under the Facility constitute State resources for the purposes of Article 107(1) TFEU.

22. Compliance with market conditions would need to be established on an *ex-ante* basis, based on information available at the time the intervention was decided upon (e.g. by means of a business plan based on economic evaluations comparable to those which, in similar circumstances, a rational market economy operator/investor would have had carried out to determine the profitability or economic advantages of the transaction). A transaction's compliance with market conditions can be directly established through transaction-specific market information: where the transaction is carried out '*pari passu*' by public entities and private operators[16]; or where it concerns the sale and purchase of assets, goods and services (or other comparable transactions) carried out through a competitive, transparent non-discriminatory and unconditional tender procedure.[17] If the intervention of the public bodies is not *pari passu* with that of private operators or a transaction has not been realised through a tender, it may be possible to demonstrate that the transaction complies with market conditions through other means, namely benchmarking[18] or other assessment methods.[19]

> See the State aid assessment of the additional examples of investments and reforms contained in the component – Scale Up
>
> **Reform B1 - Upgrade (where existing) and build the next generation of resilient European, interconnected, real-time, energy efficient, highly secured and distributed cloud to edge data centres and related nodes, for both the private and public sector:** *The envisaged public support measures may amount to State aid depending on the specific structure and purposes of the project. For instance, measures to support innovative large cross-border projects to build interconnected, energy efficient, highly secured, real-time and distributed cloud-to-edge data centres and related nodes could be authorised by the Commission: [...] It also appears possible to consider that financing of certain projects under this reform that will bring a significant private participation could rule out the presence of State aid. If at least 30% of investment comes from private operators and the State invests under the same terms (same level of protection, proportional sharing of risks and of revenues) such support could be considered under market terms and therefore would not need to be notified for Commission's approval.*

23. In the field of R&D, there are specific situations where it can be ensured that no State aid is flowing to undertakings. The Framework for State aid for research and development and innovation[20] ("R&D&I Framework") provides specific guidance on the assessment of the presence of indirect State aid to industry in R&D-interactions with publicly funded research organisations, in particular as regards research on behalf of undertakings (contract research or research services) and effective collaboration with undertakings[21].

15 For more details, see section 4.2 of the Notice on the notion of State aid.

16 See paragraphs 86 to 88 of the Notice on the notion of State aid, in particular, for the criteria to consider a transaction '*pari passu*'.

17 See paragraphs 89 to 96 of the Notice on the notion of State aid.

18 See paragraphs 98 to 100 of the Notice on the notion of State aid.

19 See paragraphs 100 to 105 of the Notice on the notion of State aid.

20 Communication from the Commission – Framework for State aid for research and development and innovation, OJ C 198, 27.6.2014, p. 1.

21 See section 2.2 of the R&D&I Framework on indirect State aid to undertakings through public funded research and knowledge dissemination organisations and research infrastructure.

E. No effect on trade between Member States and no distortion of competition

24. The distortion of competition and effect on trade can be excluded in cases of very limited amounts of aid ("*de minimis* aid"). *De minimi*s aid is not considered State aid. Therefore, there is no need for prior approval from the Commission and Member States do not even have to inform the Commission of such aid.

25. Aid is considered to be *de minimis* if the total amount of aid granted per Member State to a single undertaking does not exceed EUR 200 000 over any period of three fiscal years and the other conditions laid down in the *de minimis* Regulation are respected[22].

IV. Instances in which there is no need to notify for State aid clearance, but other requirements may apply

26. If a given investment meets the cumulative conditions of Article 107(1) TFEU and thus entails State aid, it may be considered compatible with the internal market and can be granted without notification in the following instances:

A. Aid covered by an existing State aid scheme (conditions for no notification)

27. If a Member State plans to grant State aid under an aid scheme already approved by Commission decision, it does not need to notify again the scheme to the Commission for approval and can directly provide the support to individual beneficiaries under that scheme, as long as the conditions set in the authorisation decision are complied with.

28. Moreover, any increase of up to 20% of the original budget of an aid scheme already approved by Commission decision is not considered an alteration to existing aid. If this is the only change to a scheme already authorised by the Commission, it does not need to be re-notified to the Commission for approval[23].

29. In any event, full compliance with Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility[24] should be ensured (see in particular Article 17(2)).

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[22] Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid, OJ L352, 24.12.2013, p. 1. Notably, the aid must be transparent within the meaning of Article 4 of the Regulation (i.e. it must be possible to calculate precisely the gross grant equivalent of the aid ex ante without a risk assessment), the EUR 200 000 threshold must be respected in case of cumulation with any other public support granted to the same beneficiaries under the de minimis Regulation, and the cumulation rules set out in the Regulation must be complied with.

[23] In case of budget increases to already authorised schemes exceeding 20% and/or their prolongation up to 6 years, the so-called simplified notification procedure under Article 4 of the Implementing Regulation (Commission Regulation (EC) No 794/2004 of 21 April 2004 implementing Council Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty, OJ L 140, 30.4.2004, p. 1) can be used, whereby the Commission aims to complete the assessment of notified State aid measures within one month.

[24] OJ L 57, 18.2.2021, p. 17.

B. General Block Exemption Regulation (GBER)[25]

30. In cases where the Commission has gained sufficient experience with a given kind of State aid, it may block exempt them, i.e. Member States do not have to notify such aid measures. They only have to inform the Commission thereof.

31. Certain State aid measures are exempted from notification if they are granted in compliance with the conditions of the GBER. In particular, the investments covered by this guiding template may, if the conditions are fulfilled, be supported under Articles 14 (regional investment aid), 17 (investment aid to SMEs), 21 (risk finance aid), 22 (aid for start-ups), 25 (aid for research and development projects), 25a (aid for SMEs for R&D and feasibility studies awarded a Seal of Excellence label), 25b (aid for Marie Skłodowska-Curie actions and European Research Council Proof of Concept actions awarded a Seal of Excellence label), 25c (aid for co-funded R&D projects and feasibility studies), 25d (aid for co-funded Teaming actions), 28 (innovation aid for SMEs), 29 (aid for process and organisational innovation), 36 (investment aid for environmental protection enabling undertakings to go beyond Union standards or increase the level of environmental protection in the absence of Union standards), 38 (investment aid for energy efficiency measures), 41 (investment aid for the promotion of energy production from renewable sources), 46 (investment aid for energy efficient district heating and cooling), 52 (aid for broadband infrastructures), or 56 (investment aid for local infrastructures) GBER. Note that the provisions of Chapter I of the GBER must also be complied with.

32. **Article 14 GBER** (regional investment aid) allows granting State aid for investments that take place in an assisted area[26]. If the relevant conditions are fulfilled, Article 14 GBER could cover investment aid, for undertakings of all sizes, in all assisted areas, for cloud and edge infrastructure (potentially combined with an investment in middleware or cloud and edge services), if this is an initial investment in favour of a new economic activity in the area concerned[27] (an investment related to the set-up of a new establishment or related to a new activity).

33. In existing establishments, regional investment aid could also be provided for investment in cloud and edge infrastructure, middleware and cloud and edge services (including upgrading investments), if the investment takes places in an ‘a’-area, or is carried out by a SME in more developed ‘c’-areas, and qualifies as an initial investment related to a fundamental change in the production process, an expansion of the capacity, or a diversification of the output of the establishment into products not previously produced.

34. The maximum aid intensities applicable in the assisted areas are established for each Member State in the regional aid maps and can vary across the assisted areas[28]. The

[25] Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty, OJ L 187, 26.6.2014, p. 1.

[26] ‘Assisted areas’ means areas designated in an approved regional aid map, valid at the time of award of the aid in application of Articles 107(3)(a) and (c) TFEU.

[27] An initial investment in favour of new economic activity includes, among others, an investment in tangible and intangible assets related to the setting up of a new establishment, or to the diversification of the activity of an establishment, under the condition that the new activity is not the same or a similar activity to the activity previously performed in the establishment.

[28] For example, an investment by an SME in a (c) area.

eligible costs[29] are investment costs in tangible and intangible assets, estimated wage costs arising from the job creation as a result of the eligible investment or a combination thereof. The investment shall be maintained in the recipient area for at least 5 years (3 years if the beneficiary is an SME). Additional bonuses apply for investments by small enterprises (20%) and medium-sized enterprises (10%). Aid for relocation purposes is not allowed under Article 14 GBER.

35. Large investment projects (with eligible costs exceeding EUR 50 million) can also be supported under Article 14 GBER, provided that the aid does not exceed the adjusted aid amount (based on the so-called "scale down mechanism"[30]).

> See the State aid assessment of the additional examples of investments and reforms contained in the component – Scale Up
>
> **Reform B1 – Upgrade (where existing) and build the next generation of resilient European, interconnected, real-time, energy efficient, highly secured and distributed cloud to edge data centres and related nodes, for both the private and public sector:** *The envisaged public support measures may amount to State aid depending on the specific structure and purposes of the project. For instance, measures to support innovative large cross-border projects to build interconnected, energy efficient, highly secured, real-time and distributed cloud-to-edge data centres and related nodes could be authorised by the Commission: […] As an alternative, productive investment in this field, for instance for data centres, could benefit from aid without notification, in accordance with the State aid rules, anywhere in the EU when performed by SMEs. This could also be the case for large enterprises in assisted areas. Outside the General Block Exemption Regulation, aid may be granted to productive investment under the conditions described in the Regional Aid Guidelines.*
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> **Investment B3 – Support public entities, business - including SMEs - and users and providers of Common Data Spaces to uptake high speed, trusted and sustainable cloud capabilities ("cloudification") to boost their transition in post pandemic recovery:** *The envisaged public support measures may amount to State aid depending of the specific structure and purposes of the project if such investments are provided via Member States or, more generally, if they entail public resources. If RRF funding is provided only for cohesion purposes, aid for initial investments into "cloudification" could be compatible with the internal market if it complies with the regional aid rules of the General Block Exemption Regulation (i.e. there would be no need to notify to the Commission for approval). Outside the General Block Exemption Regulation, aid may be granted under the conditions described in the Regional Aid Guidelines (in which case notification and approval by the Commission would be needed).*

36. **Article 17 GBER** allows granting investment aid to SMEs (in both assisted and non-assisted areas), not exceeding the threshold of EUR 7.5 million per undertaking per investment project. Eligible investments include among others investments in tangible and/or intangible assets relating to the setting up of a new establishment (e.g. a new data centre), the extension of an existing establishment, diversification of the output of an existing establishment into new additional products or a fundamental change in the overall production process of an existing establishment. The maximum aid intensity is 20 % of eligible costs for small enterprises and 10 % for medium-sized enterprises.

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[29] Please note that the references to 'eligible costs' in this guiding template are to be understood exclusively for the purposes of State aid. Therefore, they have no bearing on whether a particular measure and its associated cost can be financed or not by the Facility.

[30] See Article 2(20) GBER.

37. **Article 21 GBER** (risk finance aid for SMEs) allows granting State aid in the form of financial instruments ((quasi-)equity, loans or guarantees) via financial intermediaries, to support SMEs' access to finance. The SME could in principle use the funding for any purpose, hence also for the development and/or deployment of cloud and edge infrastructure, middleware and services. The beneficiaries have to be unlisted SMEs, that are typically operating on the market for less than seven years or need substantial risk finance investment to enter a new product or geographical market. Independent private investors should provide at least 40% of the total investment. The maximum total amount (i.e. public and private together) of risk finance under this Article is EUR 15 million per undertaking.

38. **Article 22 GBER** allows granting State aid for small enterprises that are start-ups. Beneficiaries have to be unlisted up to five years following their registration, and fulfil the following conditions: (a) they have not taken over the activity of another enterprise; (b) they have not yet distributed profits; (c) they have not been formed through a merger. The notification thresholds depend on the type of aid instruments (loans, guarantees or grants) and are explained in detail in Article 22 GBER[31]. If the enterprise is both small and innovative, the maximum amounts may be doubled.

39. **Article 25 GBER** allows granting State aid for R&D projects with high notification thresholds (EUR 40, 20 or 15 million per undertaking per project depending on the research category[32]) and generous aid intensities. The permitted aid intensities range between 100% and 25% depending on the closeness of the R&D activities to the market. When an R&D project is predominantly experimental development, aid of up to EUR 15 million can be granted without notification to the Commission with an aid intensity of 25 % of eligible costs. These include personnel costs, costs of instruments, equipment, buildings and land to the extent and for the period used for the project, costs of contractual research. The aid intensity of 25 % applies to undertakings of all sizes and can be increased when the project is carried out by an SME, when the project involves collaboration or when the results are widely disseminated. Nowadays, the vast

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31 "*Start-up aid shall take the form of: (a) loans with interest rates which are not conform with market conditions, with a duration of 10 years and up to a maximum nominal amount of EUR 1 million, or EUR 1,5 million for undertakings established in assisted areas fulfilling the conditions of Article 107(3)(c) of the Treaty, or EUR 2 million for undertakings established in assisted areas fulfilling the conditions of Article 107(3)(a) of the Treaty. For loans with a duration comprised between 5 and 10 years the maximum amounts may be adjusted by multiplying the amounts above by the ratio between 10 years and the actual duration of the loan. For loans with a duration of less than 5 years, the maximum amount shall be the same as for loans with a duration of 5 years; (b) guarantees with premiums which are not conform with market conditions, with a duration of 10 years and up to maximum EUR 1,5 million of amount guaranteed, or EUR 2,25 million for undertakings established in assisted areas fulfilling the conditions of Article 107(3)(c) of the Treaty, or EUR 3 million for undertakings established in assisted areas fulfilling the conditions of Article 107(3)(a) of the Treaty. For guarantees with a duration comprised between 5 and 10 years the maximum amount guaranteed amounts may be adjusted by multiplying the amounts above by the ratio between 10 years and the actual duration of the guarantee. For guarantees with a duration of less than 5 years, the maximum amount guaranteed shall be the same as for guarantees with a duration of 5 years. The guarantee shall not exceed 80 % of the underlying loan; (c) grants, including equity or quasi equity investment, interests rate and guarantee premium reductions up to EUR 0,4 million gross grant equivalent or EUR 0,6 million for undertakings established in assisted areas fulfilling the conditions of Article 107(3)(c) of the Treaty, or EUR 0,8 million for undertakings established in assisted areas fulfilling the conditions of Article 107(3)(a) of the Treaty*".

32 There are three categories (stages) of R&D: fundamental research, industrial research, experimental development; see their definitions in Article 2 GBER, points 84-86.

majority of aid for R&D is granted under the GBER. Article 25 GBER may, if the conditions are fulfilled, be available for R&D projects on innovative cloud and edge infrastructures, middleware, and cloud and edge services.

40. R&D does not include routine or period changes made to existing products (e.g. software), manufacturing processes, services (e.g. software) and other operations in progress, even if those changes may represent improvements[33]. Work on system-specific or program-specific advances that were publicly available prior to the commencement of the work is not to be considered as R&D. Routine computer and software maintenance are not R&D.

Examples of R&D in relation to software[34]:

- the development of new operating systems or languages;
- the effort to resolve conflicts within hardware or software based on the process of re-engineering a system or a network;
- the creation of new or more efficient algorithms based on new techniques;
- the creation of new and original encryption or security techniques.

Examples of other software-related activities not to be considered as R&D:

- the development of business application software and information systems using known methods and existing software tools;
- adding user functionality to existing application programs (including basic data entry functionalities);
- the use of standard methods of encryption, security verification and data integrity testing;
- the customisation of a product for a particular use, unless during this process knowledge is added that significantly improves the base program.

41. If all the relevant conditions are fulfilled, State aid for R&D projects could be granted, for instance, for R&D on a new open source cloud stack with reduced code footprint to manage edge nodes; R&D on a new open source energy-aware multi-cloud management solution; R&D on new low power embedded software in system cooling; R&D on new cognitive and swarm computing technologies; R&D on new extended life, low power and eco-design components for data processing hardware; R&D on new technologies for material reuse, waste management and circularity processes embedded in existing and future new smart computing infrastructures; R&D on new ultra-green materials for physical land and submarine interconnections among data centres; R&D on new lightening processes with close to zero energy consumption in data transmission; R&D on new innovative industrial data tracing and optimization services; R&D on next generation of low power, open, interoperable and vendor neutral middleware cloud platforms with easy plug-and-play integration functionalities for any

[33] See definition of experimental development in Article 2 GBER, point 86.

[34] OECD Frascati manual 2015, section 2.71, available at https://www.oecd.org/sti/frascati-manual-2015-9789264239012-en.htm. As referred to in paragraph 75 of the R&D&I Framework, when classifying different activities according to the relevant category of fundamental, industrial research or experimental development, the Commission will refer to its own practice as well as to the specific examples and explanations provided in the OECD Frascati Manual.

vendors' application services into cloud infrastructures; R&D on new software platforms with embedded identity management, privacy and data security by design services for common data storage, data anonymization, data aggregation and data sharing for data dispersed over hybrid clouds; R&D on new low power and secure distributed cloud architectures; R&D on new real-time with zero latency edge services; R&D on a new coding method that makes coding more energy efficient; R&D on new data anonymization, masking and endomorphic encryption services; R&D on energy efficiency data processing modelling; etc.

42. If undertakings need to use cloud and edge infrastructure, middleware, or cloud and edge services, as input for carrying out R&D projects, these undertakings could benefit from R&D project aid under Article 25 GBER for some of the costs incurred to the extent and for the time that they are used for the R&D project, if all conditions are fulfilled.

> See the State aid assessment of the additional examples of investments and reforms contained in the component – Scale Up
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> **Reform B1 - Upgrade (where existing) and build the next generation of resilient European, interconnected, real-time, energy efficient, highly secured and distributed cloud to edge data centres and related nodes, for both the private and public sector:** *The envisaged public support measures may amount to State aid depending on the specific structure and purposes of the project. For instance, measures to support innovative large cross-border projects to build interconnected, energy efficient, highly secured, real-time and distributed cloud-to-edge data centres and related nodes could be authorised by the Commission: […] To support the development of more energy efficient and secure cloud, the Research and Development and Innovation (R&D&I) State Aid rules (GBER and R&D&I Framework), for both industrial research and experimental development projects can be used.*

43. The amendment to the GBER of July 2021[35] has introduced **Articles 25a - 25d GBER** providing additional legal basis for supporting R&D projects. These new articles introduce alignments with conditions under the Horizon 2020 or the Horizon Europe programmes and hence provide simplification and synergies by eliminating duplication in assessment and reducing administrative burden. These articles provide for aid for SMEs for R&D and feasibility studies (Article 25a GBER), aid for Marie Skłodowska-Curie actions and European Research Council Proof of Concept actions (Article 25b GBER) with regard to projects awarded a Seal of Excellence quality label under the Horizon 2020 or the Horizon Europe programme[36]. Moreover, they allow for aid for co-funded R&D projects and feasibility studies (Article 25c GBER)[37] and co-funded Teaming actions (aiming at creation of new or update existing centres of excellence, including investment aid for infrastructures) (Article 25d GBER), which have been independently evaluated and selected following transnational calls under the Horizon 2020 or the Horizon Europe programme. For these aids the rules to

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35 Commission Regulation (EU) No 2021/1237 of 23 July 2021 amending Regulation (EU) No 651/2014, OJ L 270, 29.7.2021, p. 39–75.

36 A Seal of Excellence is a quality label awarded to project proposals submitted under Horizon 2020 or Horizon Europe which were judged to deserve funding but did not receive it due to budget limits.

37 If the funding provided by the Horizon 2020 or Horizon Europe programme covers at least 30 % of the total eligible costs.

determine eligible activities[38], eligible costs and total public funding are the ones defined under the Horizon 2020 or the Horizon Europe programme[39]. Similar to Article 26 GBER, investment aid for infrastructures under a co-funded Teaming action (Article 25d GBER) is subject to the following conditions: separate cost accounting of the economic and non-economic activities, a monitoring and claw-back mechanism[40], open access to the infrastructure on a transparent and non-discriminatory basis, and the charging of a market price for its operation or use. Undertakings which have financed at least 10 % of the investment costs of the infrastructure may be granted preferential access under more favourable conditions, whereby, such access shall be proportional to the undertaking's contribution to the investment costs and these conditions shall be made publicly available.

44. **Article 26 GBER** (investment aid for research infrastructures) allows granting State aid for the construction or upgrade of research infrastructures that perform economic activities, subject to separate cost accounting of the economic and non-economic activities, a monitoring and claw-back mechanism, open access to the infrastructure on a transparent and non-discriminatory basis, and the charging of a market price for its operation or use. Undertakings which have financed at least 10 % of the investment costs of the infrastructure may be granted preferential access under more favourable conditions, whereby, such access shall be proportional to the undertaking's contribution to the investment costs and these conditions shall be made publicly available. The eligible costs shall be the investment costs in intangible and tangible assets. The aid intensity shall not exceed 50 % of the eligible costs. The maximum amount of aid under this Article is EUR 20 million per infrastructure. It is important to note that research infrastructures are the infrastructures that are used by the scientific community to conduct research in their respective fields[41].

45. **Article 28 GBER** (innovation aid to SMEs) allows granting State aid to SMEs for costs of innovation advisory and support services provided to them, with generous aid intensities. If the conditions are fulfilled, such services could include e.g. eligible innovation advisory support on the move and roll-out of IT systems and services to the cloud, and innovation advisory support on the deployment of cloud and edge infrastructure, middleware, and cloud and edge services. By default, aid of up to 50 % of the eligible costs can be granted. Aid can be increased up to 100 % of the eligible costs if the total amount of aid for costs incurred by SMEs for the use of innovation advisory and support services does not exceed EUR 200 000 per beneficiary within any three year period. Where the default/regular aid intensity of 50% is applied, a maximum amount of aid of EUR 5 million per undertaking and per project can be granted under this GBER provision.

46. **Article 29 GBER** (aid for process and organisational innovation) allows granting State aid to SMEs for research and experimental development into process and organisational

[38] Activities going beyond experimental development are not eligible under Articles 25a, 25c and 25d GBER.

[39] Investment costs in project-related tangible and intangible assets are eligible under Article 25d GBER with the maximum aid amount set at 70% of the investment costs. The maximum aid amount under Article 25a shall not exceed EUR 2,5 million per SME per R&D project or feasibility study.

[40] This mechanism provides for the recovery of excess State aid in case economic activities exceed the level for which the aid was granted.

[41] Article 2(91) GBER.

innovation, including demonstration projects and pilots, testing and validation. Organisational innovation includes the implementation of a new organisational method in an undertaking's business practices, workplace organisation or external relations. Process innovation addresses the implementation of a new or significantly improved production or delivery method (including significant changes in techniques or software). If the conditions are fulfilled, a project to implement a process innovation could cover the R&D works necessary for e.g. the integration of cloud and edge data processing solutions in business or production processes. Aid for process and organisational innovation under Article 29 GBER is available to large undertakings only exceptionally, if they effectively collaborate with SMEs in the aided innovation activity, and the collaborating SMEs incur at least 30% of the total eligible costs. Eligible costs include among others personnel costs of researchers, technicians and other supporting staff, costs of instruments, equipment, buildings to the extent and for the period used for the innovation project, and additional overheads and other operating costs, including costs of materials, supplies and similar products, incurred directly as a result of the innovation project. Aid of up to 15 % of the eligible costs can be granted for large undertakings and 50 % of the eligible costs for SMEs, with a maximum amount of EUR 7.5 million per undertaking per project.

47. **Article 36 GBER** allows aid to undertakings for investments to carry out their production processes under conditions that allow protecting the environment beyond Union standards, or to increase the level of environmental protection in the absence of Union standards. This covers granting State aid to undertakings for investment costs related e.g. to recycling and re-use of their own waste (other than waste heat – for waste heat recovery, see Article 38 GBER below), and hence, if the relevant conditions are fulfilled, this could cover new technologies for waste recycling or re-use embedded in existing and future new edge and cloud infrastructures (including data centres) that reduce the negative impact these infrastructures otherwise have on the environment (compared to standard equipment). The eligible costs must be limited to the extra investment costs necessary for the increase of the level of environmental protection, and they are normally identified by reference to a similar, less environmentally friendly investment that would have been credibly carried out without the aid (the counterfactual investment). Aid intensity is 40 % of the eligible costs, with a higher aid intensity for SMEs and investments to be carried out in assisted areas, for an amount of up to EUR 15 million per undertaking per project.

48. **Article 38 GBER** allows investment aid for energy efficiency measures, i.e. for investments which make it possible for the beneficiary to deliver the same output with less energy compared to its previous situation or compared to standard equipment. If the relevant conditions are fulfilled, this could cover investments increasing energy efficiency in new cloud and edge infrastructure or retrofitting investments (for energy efficiency purposes) of existing cloud and edge infrastructure, such as green racks and servers, smart ventilation and liquid cooling systems, or energy efficiency data processing modelling tools. For new infrastructures, e.g. data centre, State aid would be available for the degree to which the new infrastructure is more energy efficient than a typical data centre that would be usually built at that moment. Eligible costs must be limited to the extra investment costs necessary to achieve a higher level of energy efficiency (these costs can often be identified as a separate investment when equipment is added in the case of retrofitting), or by reference to a similar, less energy efficient investment that would have been credibly carried out without the aid (the latter scenario is the most likely in case of new infrastructures and also applies when equipment is

being replaced in the case of retrofitting). The aid cannot subsidize investments that the company would make anyway. The aid can also not cover expenditure relating to the compliance with Union standards already adopted. Investment aid can be given for up to 30% of eligible costs, with higher aid intensities for SMEs and investments in assisted areas, for an amount up to EUR 15 million per undertaking per investment project.

49. Article 38 GBER on energy efficiency could also cover investment costs for equipment for the recovery of waste heat of a cloud and edge infrastructure (including e.g. a heat pump) provided the waste heat is re-used for the infrastructure's own energy consumption and thereby reduces the energy consumption of the infrastructure for the same output.

50. **Article 41 GBER** allows investment aid for the promotion of energy production from renewable sources. If the relevant conditions are fulfilled, this could cover, for instance, equipment that is installed on top of cloud or edge infrastructures for the production of energy from renewable sources (e.g. photovoltaic solar panels) for its own use or for injection into the public grid. Eligible costs are the extra investment costs necessary to promote the production of energy from renewable sources (either identified because it is a separate investment or by reference to a similar, less environmentally friendly investment that would have been credibly carried out without the aid). Investment aid can be given up to 45 % of the eligible costs, with higher aid intensities for SMEs and investments in assisted areas, and up to 100% in case of a competitive bidding process. Aid amount can go up to EUR 15 million per beneficiary per project. For small installations for which there is no equivalent less environmentally friendly installation due to the limited size of the installation, eligible costs correspond to the entire investment, and the aid intensity is then capped at 30 %.

51. **Article 46 GBER** allows investment aid for energy efficient district heating and cooling. This could, if the relevant conditions are fulfilled, cover investment costs for equipment for capturing, as well as upgrading, storing and injecting waste heat of a cloud and edge infrastructure (e.g. data centre) into a district heating/cooling system (rather than for the infrastructure's own consumption), provided the capturing equipment forms part of the district heating/cooling system and provided the district heating/cooling network complies with the definition of efficient district heating and cooling system as set out in Articles 2(41) and (42) of Directive 2012/27/EU[42]. For more details on district heating and cooling investments, also on the modalities to calculate the eligible costs (through deduction of the investment costs for a conventional district heating (DH) generation from the overall investment costs) and aid intensities, see the relevant guiding template on "*District heating/cooling generation and distribution infrastructure*"[43].

52. For the GBER exemptions that can be used for investments in the field of broadband, notably **Article 52 GBER**, please see the relevant State aid guiding template

42 OJ L 315, 14.11.2012, p. 1.

43 Available at https://ec.europa.eu/competition/state_aid/what_is_new/template_RFF_district_heating.pdf.

"*Measures to support the deployment and take-up of fixed and mobile very high capacity networks, including 5G and fibre networks*"[44].

53. **Article 56 GBER** (investment aid for local infrastructures) allows financing the construction or upgrade of local infrastructures, i.e. infrastructure that contribute at a local level to improving the business and consumer environment and modernising and developing the industrial base. This could, if the relevant conditions are fulfilled, potentially cover certain investments in cloud and edge infrastructures. The infrastructure shall be made available to interested users on an open, transparent and non-discriminatory basis. The price charged for the use or the sale of the infrastructure shall correspond to market price. Any concession or other entrustment to a third party to operate the infrastructure shall be assigned on an open, transparent and non-discriminatory basis, having due regard to the applicable procurement rules. The eligible costs shall be the investment costs in tangible and intangible assets. The aid amount shall not exceed the difference between the eligible costs and the operating profit of the investment. The operating profit shall be deducted from the eligible costs *ex-ante*, on the basis of reasonable projections, or through a claw-back mechanism. Dedicated infrastructure[45] is not covered by this provision. The notification threshold under Article 56 GBER is EUR 10 million or the total costs exceeding EUR 20 million for the same infrastructure.

V. Instances in which notifying for State aid clearance is necessary

54. If the measure constitutes State aid and does not meet the conditions allowing an exemption from notification, a notification to the Commission for State aid clearance is required. The aim of the present section is to assist Member States in identifying and providing the necessary and relevant information to the Commission in the context of pre-notifications and notifications, bearing in mind that the Commission will assess all State aid notifications received from Member States in the context of the Facility as a matter of priority.

A. *Procedure for pre-notification and notification*

55. In case the planned investment entails State aid and is not exempt from notification, the Member State should, in compliance with Article 108(3) TFEU, proceed to notify the measure to the Commission for approval before implementation.

56. For measures that must be notified, the Commission is committed to assess and treat those cases as a matter of priority and to engage with national authorities early on, in order to address problems in 'real time' in the context of the preparation of their Recovery and Resilience Plans. Therefore, informal contacts and pre-notifications are encouraged as soon as possible.

57. The Commission aims to complete the assessment of notified State aid measures within six weeks of receiving complete notification from the Member State.

B. *Relevant legal bases for compatibility with the Treaty*

[44] Available at https://ec.europa.eu/competition/state_aid/what_is_new/template_RFF_broadband_roll_out_and_demand_side_measures.pdf.

[45] Infrastructure which is dedicated to (a) specific user(s), as opposed to being open to all users.

58. In case the notification thresholds provided by the GBER are exceeded or other GBER conditions are not met, Member States must notify the aid measures to the Commission for approval. In such cases, the Commission will assess these measures on the basis of Article 107(3) TFEU, taking into account, when applicable, the relevant guidelines, namely the R&D&I Framework, the Guidelines on regional State aid for 2014-2020[46] or the newly adopted Guidelines on regional State aid[47] that will enter into force on 1 January 2022 ("Regional Aid Guidelines"), the Guidelines on State aid for environmental protection and energy 2014-2020[48], the Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks[49] ("Broadband Guidelines"), the Guidelines on State aid to promote risk finance investments[50] ("Risk Finance Guidelines"), or the Communication on the criteria for the analysis of the compatibility with the internal market of State aid to promote the execution of important projects of common European interest[51] ("IPCEI Communication").

59. In particular, under Article 107(3)(c) TFEU, the Commission may consider compatible with the internal market State aid to facilitate the development of certain economic activities within the European Union, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.

60. To assess whether State aid can be considered compatible with the internal market, the Commission analyses whether the design of the aid measure ensures that the positive effect of the aid on the development of the supported economic activity (positive condition) exceeds its potential negative effects on trade and competition (negative condition).

61. In its compatibility assessment, the Commission will check whether the conditions of Article 107(3)(c) TFEU are met. In particular:

    - The aid measure needs to facilitate the development of economic activities and have an incentive effect without resulting in an infringement of relevant EU law affecting the compatibility test.

    - The aid measure must not unduly affect trading conditions to an extent contrary to the common interest. For those purposes the Commission will check whether the State intervention is needed, appropriate and proportionate and addresses a market failure to achieve the objectives pursued by the measure. The Commission will also verify that transparency of the aid is ensured. Together, these conditions ensure that the distortive effects of the aid are as far as possible limited.

    - The Commission will assess the negative effects of the aid measure in terms of distortions of competition and impact on trade between Member States against the common interest of the Union. In particular, the Commission will in this step not only consider the benefits of the aid for the beneficiary's economic

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46 OJ C 209, 23.7.2013, p. 1.

47 OJ C 153, 29.4.2021, p. 1.

48 OJ C 200, 28.6.2014, p. 1.

49 OJ C 25, 26.1.2013, p. 1.

50 OJ C 19, 22.1.2014, p. 4.

51 OJ C 188, 20.6.2014, p. 4.

activity, but also take into account the positive effects of the aid for the community at large.

- The Commission will finally balance the positive effects with the negative effects of the aid on competition and trade.

a. R&D&I Framework[52]

62. Under the R&D&I Framework, notifiable R&D&I aid will be assessed in detail in order to establish whether all the relevant compatibility criteria are met, notably necessity, appropriateness and proportionality of the aid, and distortion of competition and trade. If that is the case, higher aid intensities than under the GBER can potentially be allowed based on the so-called detailed assessment to make sure that the aid amount is necessary, has an incentive effect on the beneficiary and is limited to the minimum needed for carrying out the aided activity by the beneficiary.

63. To this end, Member States must explain in detail the supported RDI activity, the technical and commercial risks involved for the beneficiary, as well as how the minimum aid amount has been established (amongst others, based on internal company documents, business plans also explaining the counterfactual in the absence of aid). The Member State must also provide market information on the impact of aid on competition and trade within the relevant market. In cases where there are multiple potential candidates for carrying out the aided activity, the proportionality requirement is more likely to be met if the aid is awarded on the basis of transparent, objective and non-discriminatory criteria as defined in the call for the selection of candidates and used by the granting authorities to evaluate and select the candidates.

64. Apart from the above-mentioned assessment criteria, the R&D&I Framework provides guidance on the presence of indirect State aid to industry in R&D-interactions with publicly funded research organisations, in particular as regards contract research, effective collaboration and research services on behalf of industry, as well as knowledge transfer in R&D-collaboration with industry [53].

> See the State aid assessment of the additional examples of investments and reforms contained in the component – Scale Up
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> **Reform B1 - Upgrade (where existing) and build the next generation of resilient European, interconnected, real-time, energy efficient, highly secured and distributed cloud to edge data centres and related nodes, for both the private and public sector:** *The envisaged public support measures may amount to State aid depending on the specific structure and purposes of the project. For instance, measures to support innovative large cross-border projects to build interconnected, energy efficient, highly secured, real-time and distributed cloud-to-edge data centres and related nodes could be authorised by the Commission: […] To support the development of more energy efficient and secure cloud, the Research and Development and Innovation (R&D&I) State Aid rules (GBER and R&D&I Framework), for both*

52 Cases that were subject to a detailed assessment under the R&D&I Framework: SA.37178 (2013/N) - Aide de l'ANR au projet de R&D « SuperGrid » dans le cadre du programme d'investissements d'avenir; SA.39457 (2015/N) - Reaction Engines Ltd, SABRE design project; SA.37137 (2013/N) - Avance récupérable pour le programme de recherche et développement TS 3000; SA.45183 (2017/N) and SA. 45185 (2017/N) - Avance remboursable pour le programme de recherche et développement de l'hélicoptère X6 (Airbus Helicopters).

53 See section 2.2 of the R&D&I Framework on indirect State aid to undertakings through public funded research and knowledge dissemination organisations and research infrastructure.

industrial research and experimental development projects can be used.

b. Regional Aid Guidelines

65. Regional investment aid can be granted in almost all sectors of the economy to large companies as well as to SMEs in assisted areas (less developed 'a'-areas and more developed 'c'-areas), subject to the conditions of the Regional Aid Guidelines. Each Member State has a regional aid map in which the assisted areas are defined. Almost half of the EU qualifies as assisted area.

66. In 'a'-areas, regional investment aid can be granted to large enterprises and SMEs not only for investments related to new establishments, but also for investments to extend and/or modernise existing establishments.[54]

67. This is also possible for regional investment aid to SME's in 'c'-areas. Also large enterprises can benefit from regional investment aid in 'c'-areas for their investments relating to new establishments (greenfield investments) and new economic activities (in principle falling into a different class (four-digit numerical code) of the NACE Rev.2 statistical classification of economic activities).

68. Regional investment aid is expressed as a percentage of the total (eligible) cost of an initial investment ('regional aid intensity') and can be granted up to the maximum aid intensity applicable in the respective assisted area. In principle, the less developed the region is, the more regional aid can be granted. The Commission will verify whether the aid amount does not exceed the net extra costs of implementing the investment in the area concerned.

69. If Member States consider granting regional investment aid for the investments described, the aided project must:

(i) contribute to economic development of the area (e.g. taking account of direct and indirect jobs created, sustainability (duration) of the investment in the region, transfer of technology and knowledge spill-over in the region);

(ii) have an incentive effect (i.e. the aid must change the behaviour of the undertaking concerned in such a way that it engages in additional activity which it would not carry out without the aid or it would carry out in a restricted or different manner or location);

(iii) be limited to the minimum necessary and in any event below the maximum aid intensity for the region; and

(iv) potential negative effects on competition and trade between Member States should remain limited (e.g. aid for manufacturing of innovative products for new growing markets would be less harmful than extension of capacities for existing products in declining markets, aid for an undertaking with lower market power is less harmful than for undertakings with significant market share).

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[54] Eligible investments are i) setting up a new establishment; ii) extension of the capacity, iii) diversification of output of existing establishment into products not previously produced in the establishment or iv) a fundamental change in the production process of an existing establishment, v) acquisition of assets belonging to an establishment that has closed down or would have closed down had it not been purchased and is bought by investor unrelated to the seller.

70. In line with the provisions explained above, the Commission will first establish whether the notified investment project is eligible for regional aid. The Commission will then verify the compatibility of the notified aid in application of the conditions laid down in the Regional Aid Guidelines. To demonstrate how the aided project contributes to regional development, the notifying Member State can for instance develop how the project contributes to creation of new jobs in the region, technology and knowledge transfer into the region, and ability of the region to contribute to development of new technologies through local innovation. Co-operation with local higher education institutions may also be considered positively in this respect.

71. To show that the project is eligible for aid under the Regional Aid Guidelines, the Member State must demonstrate i) that the project will be located in an assisted region in the respective Member State and ii) that it qualifies as an initial investment project[55]. It is for the notifying Member State to define the category of the initial investment project. In 'a'-areas regional investment aid can be granted for initial investment projects of enterprises of all sizes. For large enterprises in 'c'-areas regional aid can be granted only for initial investments that create new economic activities in these areas[56].

72. Several elements are assessed when applying the Regional Aid Guidelines. A balancing of the positive and the negative effects of the aid needs to ensure that the contribution to regional development outweighs the negative effects on trade and competition.

73. It is checked whether minimum requirements regarding the credibility[57] of the counterfactual scenario, appropriateness, incentive effect, and proportionality of the aid and its contribution to regional development are met. The Member State will be required to provide a detailed information on the counterfactual scenario (including the decision making process). There are two possible "counterfactual scenarios": the investment decision scenario (the (additional) investment would not be sufficiently profitable) or location scenario (the project would be located elsewhere in the EEA or outside EEA)[58]. The Member States should explain the impact of the aid on the investment decision or location decision to demonstrate the need for State intervention ("incentive effect"). Alternative investment or location in absence of the aid should be indicated. For large investment projects (taking into account all sources of funding) the

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[55] Examples of initial investment projects: (i) the setting-up of a new establishment (SA. 45359 – Regional investment aid to Jaguar Landrover; (ii) the extension of the capacity of an existing establishment (SA.44574 – Aid to STMicroelectronics S.r.l), (iii) the diversification of the output of an establishment into products not previously produced in the establishment (SA.48382 – Regional investment aid to MOL Petrochemia), SA.49461-Regional investment aid to Navigator Tissue) or (iv) a fundamental change in the overall production process of an existing establishment (SA.49580 – Regional investment aid to BorsodChemZrt).

[56] In some exceptional cases, aid can be also granted for the diversification of existing establishment under strict conditions defined under the Regional aid guidelines 2014-2020 (diversification of existing establishment into new products or new process innovation) or under the Regional aid guidelines coming into force in January 2022 (diversification of the output of an establishment into products not previously produced or for a fundamental change in the overall production process of the product(s) concerned, in certain Just Transition Fund areas.

[57] The counterfactual scenario is credible if it is genuine and relates to the decision-making factors prevalent at the time of the decision by the beneficiary regarding the investment.

[58] See for instance: investment decision scenario (SA.49580 – Regional investment aid to BorsodChemZrt), or location decision scenario (SA.44574 – Aid to STMicroelectronics S.r.l), SA.48382 – Regional investment aid to MOL Petrochemia, SA.36754- Aid for Audi Hungaria Motor), SA.45359 - Regional investment aid to Jaguar Landrover).

Member States should demonstrate that the aid is proportionate. In case of an investment decision, the aid amount should not exceed the minimum necessary to render the project sufficiently profitable, for example, to increase its internal rate of return beyond the normal rates of return applied by the undertaking concerned in other investment projects of a similar kind. In case of a location decision, the aid should not exceed the net-extra costs (differences in NPV between the alternative locations). In both cases, the aid should be below the maximum aid amount and maximum aid intensities for the respective region in the regional aid maps.

74. It is also verified that the aid does not lead to manifest negative effects that would prohibit the granting of aid, e.g. aid exceeding the allowable maximum aid intensity ceiling for the region concerned by the investment, creating overcapacity in a sector in decline, attracting an investment that would have gone without the aid to another region with a similar or worse off socio-economic situation, or causing the closure of activities elsewhere in the EEA.

75. The Commission has approved one regional aid scheme targeting the establishment of data centres[59] in assisted 'a'-areas. The beneficiaries of the scheme were both large undertakings and SMEs carrying out data processing, web server services (hosting) and related activities on strategic technology development sites. With the scheme, the granting authorities expected to attract initial high value added investments as well as to accelerate the establishment of supporting companies in the region.

See the State aid assessment of the additional examples of investments and reforms contained in the component – Scale Up

Reform B1 - Upgrade (where existing) and build the next generation of resilient European, interconnected, real-time, energy efficient, highly secured and distributed cloud to edge data centres and related nodes, for both the private and public sector: *The envisaged public support measures may amount to State aid depending on the specific structure and purposes of the project. For instance, measures to support innovative large cross-border projects to build interconnected, energy efficient, highly secured, real-time and distributed cloud-to-edge data centres and related nodes could be authorised by the Commission: […] As an alternative, productive investment in this field, for instance for data centres, could benefit from aid without notification, in accordance with the State aid rules, anywhere in the EU when performed by SMEs. This could also be the case for large enterprises in assisted areas. Outside the General Block Exemption Regulation, aid may be granted to productive investment under the conditions described in the Regional Aid Guidelines.*

Investment B3 – Support public entities, business - including SMEs - and users and providers of Common Data Spaces to uptake high speed, trusted and sustainable cloud capabilities ("cloudification") to boost their transition in post pandemic recovery: *The envisaged public support measures may amount to State aid depending of the specific structure and purposes of the project if such investments are provided via Member States or, more generally, if they entail public resources. If RRF funding is provided only for cohesion purposes, aid for initial investments into "cloudification" could be compatible with the internal market if it complies with the regional aid rules of the General Block Exemption Regulation (i.e. there would be no need to notify to the Commission for approval). Outside the General Block Exemption Regulation, aid may be granted under the conditions described in the Regional Aid Guidelines (in which case notification and approval by the Commission would be needed).*

59 Commission decision of 18 February 2016 in case SA.42225 – Lithuania – Regional aid scheme for the promotion of the development of strategic information and communication technology (ICT) projects on strategic ICT sites, OJ C 142, 22.4.2016, p. 8.

c. *Guidelines on State aid for environmental protection and energy 2014-2020 ("EEAG")*

76. Energy and environmental aid can be granted under the EEAG, beyond the conditions in the GBER described above, for energy efficiency measures, for the production of energy from renewable sources, for environmental protection enabling undertakings to go beyond Union standards or increase the level of environmental protection in the absence of Union standards, or for resource efficiency, including waste recycling or re-use.

77. If the relevant conditions are fulfilled, this could cover, for instance, investment aid for waste heat recovery under section 3.5 of the EEAG on resource efficiency, irrespective of whether the heat is for own use, for third party supply or for injection into the district heating system. Eligible costs are the extra investment costs necessary to achieve a higher level of resource efficiency. These costs can either be identified as a separate investment, or by reference to a similar, less resource efficient investment that would have been credibly carried out without the aid. The aid cannot subsidize investments that the company would make anyway or investments needed to comply with Union standards. In the case of waste heat recovery and when the heat is supplied to a third party, as the heat would otherwise go unused, the eligible costs can form a separate investment (investment costs for the heat exchanger for example). Investment aid can be given for up to 35 % of eligible costs for large undertakings with higher aid intensities for SMEs and assisted areas. The aid intensity can be up to 100 % when the beneficiaries and the aid amount are determined based on a competitive bidding process. Aid amounts per beneficiary per project exceeding EUR 15 million must be individually notified (i.e. in addition to the scheme itself), unless granted based on a competitive bidding process.

d. *Broadband Guidelines*

78. For aid that may be given under the Broadband Guidelines, please see the relevant State aid guiding template "*Measures to support the deployment and take-up of fixed and mobile very high capacity networks, including 5G and fibre networks*", in particular the sections related to interconnections of backbone infrastructures.

e. *Risk Finance Guidelines*

79. SMEs, small and innovative mid-caps in the value chain might need access to finance exceeding the possibilities of the GBER. Such aid might be notified under the Risk Finance Guidelines with a justification that these companies suffer from a market failure in terms of general access to finance for this type of companies.

f. *IPCEI Communication*

80. Finally, several Member States could come together to design an Important Project of Common European Interest (IPCEI). In this case, the Commission would assess the project based on the criteria set in the IPCEI Communication. The purpose of IPCEIs is to bring together knowledge, expertise, financial resources and economic actors throughout the Union, so as to overcome important market or systemic failures and societal challenges which could not otherwise be addressed. IPCEIs are set up in view of their positive spillover effects throughout the EU, beyond the companies, Member States and sectors involved. In order to be deemed compatible under these rules, an

eligible project must among others address a **market failure or other important systemic failures** and fulfil all IPCEI Communication conditions, including:

(i) significantly contribute to strategic EU objectives;

(ii) involve several Member States;

(iii) involve private financing by the beneficiaries;

(iv) generate positive spill over effects across the EU that limit potential distortions to competition, and

(v) R&D&I projects must be of a major innovative nature or constitute an important added value in terms of research and innovation in the light of the state-of-the-art in the sector concerned.

81. IPCEIs are not there to fund the mere building or acquisition of cloud and edge infrastructures. Under IPCEI rules, State aid may cover, in addition to R&D activities that go beyond the global state-of-the-art, First Industrial Deployment activities following on from the R&D and allowing for the development of a new product or service with high research and innovation content or the deployment of a fundamentally innovative production process. First Industrial Deployment refers to the upscaling of pilot facilities, including the testing phase, but neither mass production nor commercial activities. For any potential IPCEI, taking into account the specificities of the relevant sector, including in the case of cloud and edge capabilities, it has to be assessed on a case-by-case basis whether aid for First Industrial Deployment could be available.

82. Equally, for any potential IPCEI, including in the case of cloud and edge capabilities, it has to be assessed on a case-by-case basis whether and to what extent investments could be supported under paragraph 23 of the IPCEI Communication.

83. For information, there is already an approved IPCEI in the microelectronics sector[60] and two approved IPCEIs on batteries[61].

84. The Member States participating in an IPCEI are invited to submit a common notification. Thereafter, IPCEIs require a State aid assessment by the Commission and prior approval via a Commission decision. Hence, Member States should contact the Commission at the earliest stage possible in order to start assessing the viability of any potential IPCEI during pre-notification contacts.

VI. References

- Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union, OJ C 262, 19.7.2016, p. 1.
- Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty, OJ L 187, 26.6.2014, p. 1.

60 See https://ec.europa.eu/commission/presscorner/detail/en/IP_18_6862.

61 See https://ec.europa.eu/commission/presscorner/detail/en/IP_19_6705 and https://ec.europa.eu/commission/presscorner/detail/en/IP_21_226.

- Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid, OJ L 352, 24.12.2013, p. 1.
- Communication from the Commission – Framework for State aid for research and development and innovation, OJ C 198, 27.6.2014, p. 1.
- Communication from the Commission – Guidelines on State aid for environmental protection and energy 2014-2020, OJ C 200, 28.6.2014, p. 1.
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