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EN

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II

(Non-legislative acts)

REGULATIONS

COMMISSION IMPLEMENTING REGULATION (EU) 2023/1020**of 24 May 2023****amending Regulation (EU) No 965/2012 as regards helicopter emergency medical service operations****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 ⁽¹⁾, and in particular Article 27(1) and Article 31(1) thereof,

Whereas:

- (1) Commission Regulation (EU) No 965/2012 ⁽²⁾ lays down technical requirements and administrative procedures related to air operations, and among others, to helicopter emergency medical service (HEMS) operations. Such technical requirements and administrative procedures should be updated to ensure that they reflect the state of the art in developments and best practices in the air operations domain.
- (2) Helicopter emergency medical services are among the most challenging operations from a safety perspective because the mission often consists of a flight to a non-pre-surveyed site in any weather conditions and under time pressure to rescue people. Such operations should be regulated in such a way that they remain safe at all times.
- (3) Helicopter emergency non-medical rescue operations, which include mountain rescue operations, but not search and rescue of aircraft in distress, are equally challenging when carried out under the same conditions as those of helicopter emergency medical service operations. Therefore, when helicopter emergency non-medical rescue operations fall within the scope of Regulation (EU) 2018/1139, they should be regulated in the same way as helicopter emergency medical services.
- (4) On the basis of available data, the risk of accidents due to a degraded visual environment, including operations in bad weather and at night, as well as the risk of collision at an accident or a rescue site, should be further mitigated by means of requirements for equipment, standard operating procedures, and crew training.

⁽¹⁾ OJ L 212, 22.8.2018, p. 1.

⁽²⁾ Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

- (5) It should be ensured that derogations from the helicopter performance criteria apply only for legacy hospital sites that were established before the entry into force of Regulation (EU) No 965/2012, to ensure that the appropriate level of safety is achieved. At hospital sites that currently qualify for such derogations, the obstacle environment should remain supervised and acceptable from a safety perspective.
- (6) The current requirements on performance and oxygen as regards high-altitude helicopter emergency medical service and mountain rescue operations set out in Regulation (EU) No 965/2012 do not allow operations at high altitudes, however it should be possible to rescue people at any altitude. The applicable requirements should therefore be amended.
- (7) In accordance with Article 140(2), point (b) of Regulation (EU) 2018/1139, Regulation (EU) No 965/2012 is to be adapted to Regulation (EU) 2018/1139 as regards the definition of complex motor-powered aircraft which was included in Regulation (EC) No 216/2008 of the European Parliament and of the Council ⁽³⁾, repealed by Regulation (EU) 2018/1139. Regulation (EU) No 965/2012 should therefore be amended accordingly.
- (8) Operators currently conducting HEMS operations as well as competent authorities responsible for the certification and oversight of these operations will need sufficient time to fully implement the changes set out in this regulation. Therefore, the applicability of the provisions introduced by this Regulation related to HEMS operations is deferred by one year. In addition, the applicability of some specific provisions that require a longer implementation period, such as those introducing new approvals or new equipment, performance requirements or training requirements, is further deferred.
- (9) Regulation (EC) No 216/2008 repealed Directive 2004/36/EC of the European Parliament and of the Council ⁽⁴⁾. Directive 2004/36/EC was implemented by Commission Regulations (EC) No 768/2006 ⁽⁵⁾ and (EC) No 351/2008 ⁽⁶⁾. The provisions of the latter regulations have been superseded by Regulation (EU) No 965/2012, but they have never been explicitly repealed. It is therefore necessary to repeal those regulations.
- (10) The European Union Aviation Safety Agency has prepared a draft implementing act and has submitted it to the Commission with Opinion 08/2022 ⁽⁷⁾ in accordance with Article 76(1) of Regulation (EU) 2018/1139.
- (11) The requirements laid down in this Regulation are in accordance with the opinion of the Committee for the application of common safety rules in the field of civil aviation established by Article 127 of Regulation (EU) 2018/1139.

HAS ADOPTED THIS REGULATION:

Article 1

Amendments to Regulation (EU) No 965/2012

Regulation (EU) No 965/2012 is amended as follows:

- (1) in Article 6, paragraph 6 is replaced by the following:

⁽³⁾ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).

⁽⁴⁾ Directive 2004/36/EC of the European Parliament and of the Council of 21 April 2004 on the safety of third-country aircraft using Community airports (OJ L 143, 30.4.2004, p. 76).

⁽⁵⁾ Commission Regulation (EC) No 768/2006 of 19 May 2006 implementing Directive 2004/36/EC of the European Parliament and of the Council as regards the collection and exchange of information on the safety of aircraft using Community airports and the management of the information system (OJ L 134, 20.5.2006, p. 16).

⁽⁶⁾ Commission Regulation (EC) No 351/2008 of 16 April 2008 implementing Directive 2004/36/EC of the European Parliament and of the Council as regards the prioritisation of ramp inspections on aircraft using Community airports (OJ L 109, 19.4.2008, p. 7).

⁽⁷⁾ <https://www.easa.europa.eu/document-library/opinions>

‘6. By way of derogation from point CAT.POL.H.225 of Annex IV and until 25 May 2028, existing helicopter operations to or from a public interest site (PIS) may be conducted under conditions determined by the Member States, whenever the size of the PIS, the obstacle environment or the helicopter does not allow compliance with the requirements for operation in performance class 1.

Member States shall notify the Commission and the Agency of the conditions being applied.’;

(2) Annexes I, II, III, IV, V, VII and VIII are amended in accordance with the Annex to this Regulation.

Article 2

Repeal

Regulations (EC) No 768/2006 and (EC) No 351/2008 are repealed with effect from 14 June 2023.

Article 3

Entry into force and applicability

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

It shall apply from 25 May 2024.

However:

- (a) point (5)(b) of the Annex shall apply from 25 May 2026;
- (b) point (5)(d) of the Annex to this Regulation shall apply from 25 May 2028 as regards the amendment to point SPA. HEMS.110(e) of Annex V to Regulation (EU) No 965/2012;
- (c) point (5)(f) of the Annex to this Regulation shall only apply to HEMS operations covered by point (61)(b) of Annex I to Regulation (EU) No 965/2012 from 25 May 2028;
- (d) point (5)(g) of the Annex to this Regulation shall only apply to HEMS operations covered by point (61)(b) of Annex I to Regulation (EU) No 965/2012 from 25 May 2026;
- (e) points (6) and (7) of the Annex shall apply from 14 June 2023.
- (f) Member States may decide to use the form established in Appendix II to Annex II to Regulation (EU) No 965/2012 as amended by point (2)(b) of the Annex to this Regulation only when issuing new air operator certificates, or making changes to existing certificates, in accordance with points ARO.GEN.310 or ARO.GEN.330 of Annex II to Regulation (EU) No 965/2012.

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

Done at Brussels, 24 May 2023.

For the Commission

The President

Ursula VON DER LEYEN

ANNEX

Annexes I, II, III, IV, V, VII and VIII to Regulation (EU) No 965/2012 are amended as follows:

(1) Annex I is amended as follows:

(a) point (61) is replaced by the following:

‘(61) “HEMS flight” means a flight by a helicopter operating under a HEMS approval, where immediate and rapid transportation is essential and the purpose of which is either of the following:

(a) to facilitate emergency medical assistance by carrying one or more of the following:

(i) medical personnel;

(ii) medical supplies (equipment, blood, organs, drugs);

(iii) ill or injured persons and other persons directly involved;

(b) to perform an operation where a person faces an imminent or anticipated health risk posed by the environment and either of the following conditions is met:

(i) that person needs to be rescued or provided with supplies;

(ii) persons, animals or equipment need to be transported to and from the HEMS operating site;’;

(b) the following point (61a) is inserted:

‘(61a) “HEMS HEC operation” means air and ground operations for the purpose of transporting one or more persons as human external cargo (HEC) within a HEMS flight;’;

(c) point (62) is replaced by the following:

‘(62) “HEMS operating base” means an aerodrome at which the crew members and the HEMS helicopter may be on standby for HEMS operations;’;

(d) point (63) is replaced by the following:

‘(63) “HEMS operating site” means a site that is selected by the commander during a HEMS flight for a HEMS HEC operation or a landing or a take-off;’;

(e) point (118) is replaced by the following:

‘(118) “technical crew member” means a crew member in commercial air transport HEMS, HEMS HEC, HHO or NVIS operations, other than a flight or cabin crew member, assigned by the operator to duties in the aircraft or on the ground for the purpose of assisting the pilot during HEMS, HEMS HEC, HHO or NVIS operations, which may require the operation of specialised on-board equipment;’;

(f) the following new point (129) is added:

‘(129) “complex motor-powered aircraft” shall mean:

(a) an aeroplane:

— with a maximum certificated take-off mass exceeding 5 700 kg, or

— certificated for a maximum passenger seating configuration of more than nineteen, or

— certificated for operation with a minimum crew of at least two pilots, or

— equipped with (a) turbojet engine(s) or more than one turboprop engine, or

(b) a helicopter certificated:

- (i) for a maximum take-off mass exceeding 3 175 kg, or
- (ii) for a maximum passenger seating configuration of more than nine, or
- (iii) for operation with a minimum crew of at least two pilots, or

(c) a tilt rotor aircraft;';

(2) Annex II is amended as follows:

(a) point ARO.OPS.220 is replaced by the following:

'ARO.OPS.220 Approval of helicopter operations to or from a public interest site

- (a) Upon receiving an application for the issue of, or changes to, an approval for a helicopter operation to or from a public interest site, the competent authority shall assess the application in accordance with point CAT.POL.H.225 of Annex IV and conduct any additional assessment of the operator as deemed necessary.
- (b) The approval referred to in point CAT.POL.H.225 of Annex IV shall include a list of the public interest site or sites and helicopter type or types specified by the operator and to which the approval applies.
- (c) The approval shall only apply to public interest sites established before 1 July 2002, or to public interest sites established before 28 October 2014 and for which a derogation from point CAT.POL.H.225 of Annex IV granted under Article 6(6) has been notified to the Commission and the Agency.
- (d) If changes to the obstacle environment at a public interest site are notified or discovered, the competent authority shall assess whether the approvals it has granted covering helicopter operations to or from that site remain valid. Where permanent changes to the obstacle environment have a significantly negative safety impact, the following shall apply:
 - (1) the competent authority shall limit the privileges of the relevant approvals granted under point CAT.POL.H.225 of Annex IV to exclude helicopter operations to and from that site and remove the site from the list attached to the approval in accordance with point (b);
 - (2) the site shall no longer qualify for a public interest site approval under point CAT.POL.H.225 of Annex IV;
 - (3) where the new obstacles are removed, operators may apply or reapply for an approval for a helicopter operation under point CAT.POL.H.225 of Annex IV for the particular site.
- (e) The competent authority shall not grant an approval under point CAT.POL.H.225 of Annex IV for a public interest site that was previously operated in performance class 1 following a change in the obstacle environment.';

(b) Appendix II is replaced by the following:

‘Appendix II

OPERATIONS SPECIFICATIONS (subject to the approved conditions in the operations manual)				
Issuing authority contact details Telephone ⁽¹⁾ : _____; Fax _____; Email: _____				
AOC ⁽²⁾ : _____ Operator name ⁽³⁾ : _____ Date ⁽⁴⁾ : _____ Signature: _____ Db a trading name Operations specifications #: _____				
Aircraft model ⁽⁵⁾ : _____ Registration marks ⁽⁶⁾ : _____				
Types of operations: Commercial air transport ☐ Passengers ☐ Cargo ☐ Others ⁽⁷⁾ : _____				
Area of operation ⁽⁸⁾ : _____				
Special limitations ⁽⁹⁾ : _____				
Specific approvals:	Yes	No	Specification ⁽¹⁰⁾	Remarks
Dangerous goods:	☐	☐		
Low-visibility operations				
Take-off	☐	☐	RVR ⁽¹¹⁾ :... m	
Approach and landing	☐	☐	CAT ⁽¹²⁾ DA/H: ft, RVR:... m	
Operational credits	☐	☐	CAT ⁽¹³⁾DA/H: ft, RVR:... m	
RVSM ⁽¹⁴⁾ ☐ N/A	☐	☐		
ETOPS ⁽¹⁵⁾ ☐ N/A	☐	☐	Maximum diversion time ⁽¹⁶⁾ : min.	

Complex navigation specifications for PBN operations ⁽¹⁷⁾	☐	☐		(18)
Minimum navigation performance specification	☐	☐		
Operations of single-engined turbine aeroplane at night or in IMC (SET-IMC)	☐	☐	(19)	
Helicopter operations with the aid of night vision imaging systems	☐	☐		
Helicopter hoist operations	☐	☐		
Helicopter emergency medical service operations	☐	☐		
Helicopter offshore operations	☐	☐		
Reduced VFR operating minima on helicopter point-in-space approaches and departures	☐	☐		
Cabin crew training ⁽²⁰⁾	☐	☐		
Issue of CC attestation ⁽²¹⁾	☐	☐		
Use of type B EFB applications	☐	☐	(22)	
Continuing airworthiness	☐	☐	(23)	
Others ⁽²⁴⁾				

- (1) Telephone contact details of the competent authority, including the country code. Email to be provided as well as fax if available.
- (2) Insertion of associated air operator certificate (AOC) number.
- (3) Insertion of the operator's registered name and the operator's trading name, if different. Insert 'Dba' before the trading name (for 'Doing business as').
- (4) Issue date of the operations specifications (dd-mm-yyyy) and signature of the competent authority representative.
- (5) Insertion of ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232).
- (6) The registration marks are listed either in the operations specifications or in the operations manual. In the latter case, the related operations specifications must make a reference to the related page in the operations manual. In case not all specific approvals apply to the aircraft model, the registration marks of the aircraft may be entered in the remark column to the related specific approval.
- (7) Other type of transportation to be specified (e.g. emergency medical service).
- (8) Listing of geographical area(s) of authorised operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries).

- (9) Listing of applicable special limitations (e.g. VFR only, Day only, etc.).
- (10) List in this column the most permissive criteria for each approval or the approval type (with appropriate criteria).
- (11) Insertion of approved minimum take-off RVR in metres. One line per approval may be used if different approvals are granted.
- (12) Insertion of applicable precision approach category: CAT II or CAT III. Insertion of minimum RVR in metres and DH in feet. One line is used per listed approach category.
- (13) Insertion of applicable operational credit: SA CAT I, SA CAT II, EFVS, etc. Insertion of minimum RVR in metres and DH in feet. One line is used per listed operational credit.
- (14) The Not Applicable (N/A) box may be checked only if the aircraft maximum ceiling is below FL290.
- (15) Extended range operations (ETOPS) currently apply only to two-engined aircraft. Therefore, the Not Applicable (N/A) box may be checked if the aircraft model has less or more than two engines.
- (16) The threshold distance may also be listed (in NM), as well as the engine type.
- (17) Performance-based navigation (PBN): one line is used for each complex PBN specific approval (e.g. RNP AR APCH), with appropriate limitations listed in the 'Specifications' or 'Remarks' columns, or in both. Procedure-specific approvals of specific RNP AR APCH procedures may be listed in the operations specifications or in the operations manual. In the latter case, the related operations specifications must have a reference to the related page in the operations manual.
- (18) Specify if the specific approval is limited to certain runway ends or aerodromes, or both.
- (19) Insertion of the particular airframe or engine combination.
- (20) Approval to conduct the training course and examination to be completed by applicants for a cabin crew attestation as specified in Annex V (Part-CC) to Regulation (EU) No 1178/2011.
- (21) Approval to issue cabin crew attestations as specified in Annex V (Part-CC) to Regulation (EU) No 1178/2011.
- (22) Insertion of the list of type B EFB applications together with the reference of the EFB hardware (for portable EFBs). This list is contained either in the operations specifications or in the operations manual. In the latter case, the related operations specifications must make a reference to the related page in the operations manual.
- (23) The name of the person or organisation responsible for ensuring that the continuing airworthiness of the aircraft is maintained and a reference to the regulation that requires the work, i.e. Subpart G of Annex I (Part-M) to Regulation (EU) No 1321/2014.
- (24) Other approvals or data may be entered here, using one line (or one multi-line block) per authorisation (e.g. short landing operations, steep approach operations, reduced required landing distance, helicopter operations to or from a public interest site, helicopter operations over a hostile environment located outside a congested area, helicopter operations without a safe forced landing capability, operations with increased bank angles, maximum distance from an adequate aerodrome for two-engined aeroplanes without an ETOPS approval).

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(3) Annex III is amended as follows:

(a) point ORO.TC.110 is amended as follows:

(i) point (b) is replaced by the following:

‘(b) Following the completion of initial, operator conversion, and differences training, and following any required familiarisation flights, each technical crew member shall undergo a check to demonstrate their proficiency in carrying out normal and emergency procedures.’;

(ii) the following points (d) and (e) are added:

‘(d) The checks that follow the operator conversion training and any required familiarisation flights shall take place prior to operating as a required technical crew member in HEMS, HHO or NVIS operations.

(e) The validity of the technical crew member’s check to demonstrate their proficiency in carrying out normal and emergency procedures shall be 12 calendar months.’;

(b) point ORO.TC.130 is replaced by the following:

‘ORO.TC.130 Familiarisation flights

If the operator conversion training does not include training in an aircraft/FSTD, each technical crew member shall undertake familiarisation flights.’.

(4) Annex IV is amended as follows:

(a) point CAT.POL.H.215 is amended as follows:

(i) point (a) is replaced by the following:

‘(a) The mass of the helicopter and the flight path at all points along the route, with the critical engine inoperative and the meteorological conditions expected for the flight, shall permit compliance with any of the following points:

(1) when it is intended that the flight will be conducted at any time out of sight of the surface, the mass of the helicopter permits a rate of climb of at least 50 ft/minute with the critical engine inoperative at an altitude of at least 300 m (1 000 ft), or 600 m (2 000 ft) in areas of mountainous terrain, above all relevant terrain and obstacles along the route;

(2) when it is intended that the flight will be conducted without the surface in sight, the flight path permits the helicopter to continue flight from the cruising altitude to a height of 300 m (1 000 ft) above a landing site where a landing can be made in accordance with point CAT.POL.H.220; the flight path clears vertically, by at least 300 m (1 000 ft) or 600 m (2 000 ft) in areas of mountainous terrain, all relevant terrain and obstacles along the route; Drift-down techniques may be used;

(3) when it is intended that the flight will be conducted in VMC with the surface in sight, the flight path permits the helicopter to continue flight from the cruising altitude to a height of 300 m (1 000 ft) above a landing site where a landing can be made in accordance with point CAT.POL.H.220, without flying at any time below the appropriate minimum flight altitude; Obstacles shall be considered within a distance on either side of the route as specified for the purpose of determination of the minimum flight altitude in VFR.’;

(ii) point (c) is deleted;

(b) point CAT.POL.H.225 is amended as follows:

(i) in point (a), point (1) is replaced by the following:

‘(1) the site was established as a public interest site before 1 July 2002, or the site was established as a public interest site before 28 October 2014 and a derogation from this point granted under Article 6(6) has been notified to the Commission and the Agency before 14 June 2023.’

- (ii) point (c) is replaced by following:
 - ‘(c) The operations manual shall contain all the following for each PIS: a diagram or annotated photograph that shows the main aspects, the dimensions, the non-conformance with the performance class 1 requirements, the main hazards and the contingency plan should an incident occur.’;
- (iii) the following point (d) is added:
 - ‘(d) The operator shall keep the information provided in point (c) up to date and shall notify any changes to it to the competent authority. When operations take place in another Member State, the operator shall also notify the authority of that State.’;
- (c) in point CAT.POL.H.420, point (b) is replaced by the following:
 - ‘(b) To obtain and maintain such approval, the operator shall:
 - (1) only conduct the operations referred to in point (a) in the areas and under the conditions specified in the approval;
 - (2) INTENTIONALLY LEFT BLANK
 - (3) substantiate that helicopter limitations, or other justifiable considerations, preclude the use of the appropriate performance criteria;
 - (4) be approved in accordance with point CAT.POL.H.305(b).’;
- (5) Annex V is amended as follows:
 - (a) in point SPA.NVIS.110, point (e) is replaced by the following:
 - ‘(e) All required NVG on an NVIS flight shall be of the same filter class and shall provide for sufficiently equivalent visual acuity.’;
 - (b) in point SPA.HERMS.100, the following point (c) is added:
 - ‘(c) Night operations to non-pre-surveyed HERMS operating sites outside congested areas that provide sufficient artificial ambient light shall be conducted under an approval issued in accordance with point SPA.NVIS.100.’;
 - (c) the following point SPA.HERMS.105 is inserted:

‘SPA.HERMS.105 HERMS HEC operations

- (a) HERMS HEC operations may be conducted with either of the following:
 - (1) a helicopter hoist, under the conditions prescribed in Subpart I (Helicopter Hoist Operations);
 - (2) a cargo sling, under the conditions prescribed in point (b).
- (b) For HERMS HEC operations conducted with a cargo sling, the operator shall:
 - (1) comply with the requirements of point SPO.SPEC.HEC.105 of Annex VIII;
 - (2) use an approved double cargo hook, or a cargo hook system approved under a relevant airworthiness standard;
 - (3) limit the operations to the technical phase of the flight for rescuing injured, ill or endangered persons, or to carry persons that are necessary for the mission;
 - (4) ensure that sling technical crew members are adequately equipped, trained, checked and briefed;
 - (5) develop specific HERMS HEC SOPs, following the risk assessment referred to in point SPA.HERMS.140;
 - (6) ensure that all flight crew members involved in HERMS HEC operations are experienced, trained and checked for HERMS HEC operations, and have recent experience with such activity.’;

- (d) point SPA.HEMS.110 is replaced by the following:

‘SPA.HEMS.110 Equipment requirements for HEMS operations

- (a) The installation on a helicopter of all dedicated medical equipment and any subsequent modifications to that equipment and, where appropriate, its operation, shall be approved in accordance with Regulation (EU) No 748/2012.
- (b) For VFR flights over routes navigated by reference to visual landmarks, the helicopter shall be equipped with a device that provides a moving map display with own-ship position and obstacles. The map and obstacle database(s) shall be kept up to date.
- (c) By way of derogation from point CAT.IDE.H.240 of Annex IV, complex, non-pressurised helicopters operated in HEMS with a MOPSC of nine or less shall comply with the oxygen requirements applicable to other than complex, non-pressurised helicopters.
- (d) By way of derogation from points CAT.OP.MPA.285 and CAT.IDE.H.240 of Annex IV, short excursions above 13 000 ft without using supplemental oxygen may be undertaken by day, subject to prior approval by the competent authority, provided that all the following conditions are met:
 - (1) the excursion above 13 000 ft is necessary for the embarkation/disembarkation of persons or for HEMS HEC operations;
 - (2) the flight is not conducted above 16 000 ft;
 - (3) the duration of the excursion above 10 000 ft without oxygen is limited to 30 minutes within a HEMS mission;
 - (4) the safety briefing in accordance with point CAT.OP.MPA.170 of Annex IV includes adequate information to crew members and passengers on the effects of hypoxia;
 - (5) SOPs are included in the operations manual covering points (1) to (4);
 - (6) the operator’s experience of conducting operations at high altitudes without using supplemental oxygen is adequate for the operations to be performed;
 - (7) the experience of the individual crew members and their physiological adaptation to high altitudes are adequate for the operations to be performed;
 - (8) all crew members involved in the operations have received initial and recurrent training in hypoxia;
 - (9) none of the crew members involved in the operations have been diagnosed with a medical condition that could lead to hypoxia.
- (e) For single-pilot operations at night, the helicopter shall be equipped as follows:
 - (1) for a helicopter first issued with an individual CofA before 25 May 2024 or earlier, with a suitable stability augmentation system or autopilot;
 - (2) for a helicopter first issued with an initial CofA on or after 25 May 2024, with an autopilot.
- (f) For HEMS operations by day, the helicopter shall be equipped with the flight instruments required under points (a)(6) and (a)(7) of point CAT.IDE.H.130 of Annex IV.
- (g) The helicopter shall be equipped with a radio altimeter capable of emitting an audio warning below a pre-set height and a visual warning at a height selectable by the pilot.
- (h) Instruments and equipment required in points (e) and (g) shall be approved in accordance with the applicable airworthiness requirements.
- (i) The operator shall ensure that all relevant information is documented in the minimum equipment list.’;

- (e) point SPA.HERMS.120 is replaced by the following:

‘SPA.HERMS.120 HERMS operating minima

- (a) HERMS flights operated under VFR shall comply with the HERMS-specific weather minima for the dispatch and en-route phase of the HERMS flight.
 - (b) If during the en-route phase the weather conditions fall below the cloud base or visibility minima, helicopters certified for flights only under VMC shall abandon the flight or return to base. Helicopters equipped and certified for instrument meteorological conditions (IMC) operations may abandon the flight, return to base or convert in all respects to a flight conducted under instrument flight rules (IFR), provided the flight crew are suitably qualified.
 - (c) The VFR operating minima shall be as defined by the applicable airspace requirements, except in the following cases where reduced ceiling, visibility and vertical distances from obstacles may be used:
 - (1) multi-pilot operations;
 - (2) single-pilot operations with a technical crew member seated in a forward-facing front seat, who is suitably qualified and tasked to mitigate the additional risk.’;
- (f) point SPA.HERMS.125 is replaced by the following:

‘SPA.HERMS.125 Performance requirements for HERMS operations

- (a) Performance class 3 operations over a hostile environment shall only be conducted provided one of the following conditions are met:
 - (1) The HERMS operating site used for take-off, landing or HERMS HEC operations is located above 7 000-ft altitude and the helicopter is certified as Category A or equivalent, as determined by the Agency;
 - (2) The planned HERMS operation does not require the transportation of medical personnel, medical supplies or ill or injured persons, and either the helicopter is certified as Category A or equivalent, as determined by the Agency, or all the following conditions are met:
 - (i) the helicopter is equipped with crash-resistant fuel systems;
 - (ii) the helicopter is equipped with a safety belt with upper torso restraint system for use on each passenger seat for each passenger aged 24 months or more;
 - (iii) the altitude of at least one of the HERMS operating sites used during the HERMS operation is not lower than 3 000 ft;
 - (iv) the operator has been granted an approval by the competent authority in accordance with point CAT. POL.H.420 of Annex IV;
 - (3) At least one HERMS operating site used for take-off, landing or HERMS HEC operations during the HERMS operation is located at or above 8 000-ft altitude and all the following conditions are met:
 - (i) the helicopter is equipped with crash-resistant fuel systems;
 - (ii) the helicopter is equipped with a safety belt with upper torso restraint system for use on each passenger seat for each passenger aged 24 months or more;
 - (iii) a helicopter certified as Category A or equivalent, as determined by the Agency, is not available or not suitable for the operation due to either of the following reasons:
 - (A) insufficient performance margins to operate at the HERMS operating site, or no capability to conduct HERMS HEC operations, if applicable;
 - (B) helicopters certified as Category A or equivalent, as determined by the Agency, and that might otherwise be dispatched, are on a HERMS mission or not yet ready for the next mission, leading to a delay in the intervention incompatible with the emergency;

- (iv) the operator has established a procedure to achieve compliance with point (iii);
 - (v) the operator has been granted an approval by the competent authority in accordance with point CAT.POL.H.420 of Annex IV;
 - (vi) the operator shall record all missions flown with a helicopter that is not certified as Category A or equivalent, as determined by the Agency.
- (b) By way of derogation from point CAT.POL.H.400(d)(2) of Annex IV, if the criteria of point (a)(1) are met, then helicopter night operations may be conducted in performance class 3.
- (c) Take-off and landing
- (1) Helicopters that conduct operations to or from a final approach and take-off area (FATO) at a hospital that is located in a congested hostile environment and that is used as a HEMS operating base shall be operated in accordance with performance class 1.
 - (2) Helicopters that conduct operations to or from a FATO at a hospital that is located in a congested hostile environment and that is not a HEMS operating base shall be operated in accordance with performance class 1 except when the operator holds an approval in accordance with point CAT.POL.H.225.
 - (3) Helicopters that conduct operations to or from a HEMS operating site located in a hostile environment shall be:
 - (i) operated in accordance with performance class 2, or if the conditions defined in point (a) are met, in performance class 3;
 - (ii) exempt from the approval required by point CAT.POL.H.305(a) of Annex IV, provided compliance is shown with point CAT.POL.H.305(b)(2) and (b)(3) of Annex IV.
 - (4) The HEMS operating site features shall provide adequate clearance from all obstructions, and shall provide for safe operations. For night operations, the helicopter lighting system shall adequately illuminate the landing site and surrounding obstacles.;
- (g) point SPA.HEMS.130 is replaced by the following:

‘SPA.HEMS.130 Crew requirements

- (a) *Selection.* The operator shall establish criteria for the selection of flight crew members for the HEMS task, taking their previous experience into account.
- (b) INTENTIONALLY LEFT BLANK
- (c) *Operational training.* Crew members shall successfully complete operational training in accordance with the HEMS procedures contained in the operations manual.
- (d) *Flight training by sole reference to instruments.* Flight crew members that conduct HEMS operations without a valid instrument rating shall complete flight training to proficiency by sole reference to instruments in a helicopter or in an FSTD to have the skills to escape unintended IMC conditions. The validity period of the flight training shall be 6 calendar months.
- (e) *Crew composition*
 - (1) *Day flight.* The minimum crew composition shall at least satisfy the following requirements:
 - (i) comprise either two pilots or one pilot and one HEMS technical crew member;
 - (ii) the crew composition may be reduced to only one pilot only if one of the situations below occur; once the crew composition is reduced to one pilot, the commander shall only operate to or from HEMS operating sites if they have previously conducted an in-flight reconnaissance with two crew members during the same HEMS mission:
 - (A) the commander is required to fetch additional medical supplies, refuel, or reposition while the HEMS technical crew member provides medical assistance on the ground;

- (B) the medical passenger requires the assistance of the HEMS technical crew member in flight;
 - (C) the HEMS technical crew member disembarks to supervise a HEMS HEC cargo sling operation from outside the helicopter;
 - (2) *Night flight*. The minimum crew composition shall be:
 - (i) either two pilots or one pilot and one HEMS technical crew member;
 - (ii) one pilot where the following conditions are met:
 - (A) the medical passenger requires the assistance of the HEMS technical crew member during the flight;
 - (B) neither the departure nor the destination is a HEMS operating site.
 - (3) The operator shall ensure that the continuity of the crew concept is maintained throughout the HEMS mission.
- (f) Flight and technical crew training and checking
 - (1) Training and checking shall be conducted by suitably qualified personnel in accordance with a detailed syllabus that is included in the operations manual and approved by the competent authority.
 - (2) Crew members
 - (i) All relevant elements of the crew training programmes defined in Subpart FC and TC of Annex III (Part-ORO), including helicopter/FSTD training, shall improve the crew's knowledge of the HEMS working environment and equipment, improve crew coordination, and include measures to minimise the risks associated with en-route transit in low-visibility conditions, the selection of HEMS operating sites, and approach and departure profiles.
 - (ii) The measures referred to in point (i) shall be assessed during both of the following:
 - (A) VMC day proficiency checks, or VMC night proficiency checks when night HEMS operations are undertaken by the operator;
 - (B) line checks.
 - (iii) the HEMS components of the proficiency checks and line checks referred to in point (ii) shall both have a validity period of 12 calendar months.;
- (h) point SPA.HEMS.140 is replaced by the following:

‘SPA.HEMS.140 Information, procedures and documentation

- (a) The operator shall assess, mitigate, and minimise the risks associated with the HEMS environment as part of its risk analysis and management process. The operator shall describe the mitigating measures, including operating procedures, in the operations manual.
 - (b) The operator shall ensure that the HEMS commander assesses specific risks associated with the particular HEMS mission.
 - (c) Notwithstanding point CAT.OP.MPA.175 of Annex IV, the operator does not need to complete an operational flight plan if the HEMS mission includes a flight to or from a non-pre-surveyed HEMS operating site.
 - (d) Relevant extracts from the operations manual shall be made available to the organisation for which the operator performs HEMS operations.;
- (i) the following point SPA.HEMS.151 is inserted:

‘SPA.HEMS.151 Aircraft tracking system

The operator shall establish and maintain a monitored aircraft tracking system for HEMS operations for the entire duration of the HEMS mission.;

- (j) in point SPA.PINS-VFR.100, point (a) is replaced by the following:
- ‘(a) The operator shall only use reduced VFR operating minima where both of the following conditions are met:
- (1) the operations are not conducted under a HEMS approval;
- (2) the operator has been granted an approval by the competent authority.’;
- (6) in Annex VII, point NCO.IDE.H.170(b) is replaced by the following:
- ‘(b) Helicopters certified for a maximum passenger seating configuration of six or less shall be equipped with an ELT(S) or a personal locator beacon (PLB), carried by a crew member or a passenger, or with an automatic ELT.’;
- (7) in Annex VIII, point SPO.IDE.H.190(b) is replaced by the following:
- ‘(b) Helicopters certified for a maximum seating configuration of six or less shall be equipped with an ELT(S) or a personal locator beacon (PLB), carried by a crew member or a task specialist, or with an automatic ELT.’.
-

COMMISSION IMPLEMENTING REGULATION (EU) 2023/1021**of 24 May 2023****renewing the approval of the active substance *Bacillus thuringiensis* subsp. *kurstaki* PB 54 in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council, and amending Commission Implementing Regulation (EU) No 540/2011****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC ⁽¹⁾, and in particular Article 20(1) thereof,

Whereas:

- (1) Commission Directive 2008/113/EC ⁽²⁾ included a reference to the approval of *Bacillus thuringiensis* subsp. *kurstaki* PB 54 as an active substance in Annex I to Council Directive 91/414/EEC ⁽³⁾.
- (2) According to Article 78(3) of Regulation (EC) No 1107/2009, active substances included in Annex I to Directive 91/414/EEC are deemed to have been approved under Regulation (EC) No 1107/2009 and are listed in Part A of the Annex to Commission Implementing Regulation (EU) No 540/2011 ⁽⁴⁾.
- (3) The approval of the active substance *Bacillus thuringiensis* subsp. *kurstaki* PB 54, as set out in Part A of the Annex to Implementing Regulation (EU) No 540/2011 expires on 15 August 2024.
- (4) On 30 April 2016, an application for the renewal of the approval of the active substance *Bacillus thuringiensis* subsp. *kurstaki* PB 54 was submitted to Denmark, the rapporteur Member State, and the Netherlands, the co-rapporteur Member State, in accordance with Article 1 of Commission Implementing Regulation (EU) No 844/2012 ⁽⁵⁾ and within the time period provided for in that Article.
- (5) The applicant also submitted the supplementary dossiers required by Article 6 of Implementing Regulation (EU) No 844/2012 to the rapporteur Member State, the co-rapporteur Member State, the Commission and the European Food Safety Authority ('the Authority'). The application was found to be admissible by the rapporteur Member State.

⁽¹⁾ OJ L 309, 24.11.2009, p. 1.

⁽²⁾ Commission Directive 2008/113/EC of 8 December 2008 amending Council Directive 91/414/EEC to include several micro-organisms as active substances (OJ L 330, 9.12.2008, p. 6).

⁽³⁾ Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (OJ L 230, 19.8.1991, p. 1).

⁽⁴⁾ Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards the list of approved active substances (OJ L 153, 11.6.2011, p. 1).

⁽⁵⁾ Commission Implementing Regulation (EU) No 844/2012 of 18 September 2012 setting out the provisions necessary for the implementation of the renewal procedure for active substances, as provided for in Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market (OJ L 252, 19.9.2012, p. 26). This Regulation was replaced by Commission Implementing Regulation (EU) 2020/1740 (OJ L 392, 23.11.2020, p. 20), however, according to Article 17 of that Regulation, it continues to apply to the procedure for the renewal of the approval of active substances: (1) whose approval period ends before 27 March 2024; (2) for which a Regulation, adopted in accordance with Article 17 of Regulation (EC) No 1107/2009 on or after 27 March 2021, extends the approval period to 27 March 2024 or a later date.

- (6) The rapporteur Member State prepared a draft renewal assessment report in consultation with the co-rapporteur Member State and submitted it to the Authority and the Commission on 28 June 2019. In its draft renewal assessment report the rapporteur Member State proposes to renew the approval of *Bacillus thuringiensis* subsp. *kurstaki* PB 54.
- (7) The Authority communicated the draft renewal assessment report to the applicant and to the Member States for comments, launched a public consultation, and forwarded the comments received to the Commission. The Authority also made the supplementary summary dossier available to the public.
- (8) On 2 March 2021, the Authority communicated to the Commission its conclusion ⁽⁶⁾, which indicates that *Bacillus thuringiensis* subsp. *kurstaki* PB 54 can be expected to meet the approval criteria provided for in Article 4 of Regulation (EC) No 1107/2009.
- (9) The Commission presented a renewal report regarding *Bacillus thuringiensis* subsp. *kurstaki* PB 54 and a draft of this Regulation to the Standing Committee on Plants, Animals, Food and Feed on 14 October 2022 and on 25 January 2023, respectively.
- (10) The Commission invited the applicant to submit its comments on the conclusion of the Authority and, in accordance with Article 14(1), third subparagraph, of Implementing Regulation (EU) No 844/2012, on the renewal report. The applicant submitted its comments, which have been carefully examined and taken into consideration.
- (11) It has been established with respect to one or more representative uses of at least one plant protection product containing the active substance *Bacillus thuringiensis* subsp. *kurstaki* PB 54 that the approval criteria provided for in Article 4 of Regulation (EC) No 1107/2009 are satisfied.
- (12) It is therefore appropriate to renew the approval of *Bacillus thuringiensis* subsp. *kurstaki* PB 54.
- (13) It is, however, necessary to provide for certain conditions pursuant to Article 14(1), read in conjunction with Article 6, of Regulation (EC) No 1107/2009. It is, in particular, appropriate as a precautionary approach for consumer dietary protection to include a minimum time period between the application of plant protection products containing *Bacillus thuringiensis* subsp. *kurstaki* PB 54 and the harvest of edible crops used for fresh consumption, unless residues data show levels of *Bacillus thuringiensis* subsp. *kurstaki* PB 54 below 10⁵ CFU/g at harvest.
- (14) In addition, in order to increase the confidence in the conclusion that *Bacillus thuringiensis* subsp. *kurstaki* PB 54 does not affect human health, the applicant should provide further data regarding the density decline of viable spores of *Bacillus thuringiensis* subsp. *kurstaki* PB 54 on edible plant parts from the time of application of a plant protection product containing this active substance until the time of harvest or until levels found are below 10⁵ CFU/g.
- (15) Furthermore, it is appropriate to require that Member States, when assessing applications for authorisations of plant protection products containing *Bacillus thuringiensis* subsp. *kurstaki* PB 54, pay particular attention to the protection of operators and workers.
- (16) Implementing Regulation (EU) No 540/2011 should therefore be amended accordingly.

⁽⁶⁾ EFSA Journal. DOI: <https://doi.org/10.2903/j.efsa.2021.6496>. Available online: www.efsa.europa.eu.

- (17) Commission Implementing Regulation (EU) 2023/689 ⁽⁷⁾ extended the approval of *Bacillus thuringiensis* subsp. *kurstaki* PB 54 until 15 August 2024 in order to allow the renewal process to be completed before the expiry of the approval period of that active substance. However, given that a decision on renewal has been taken ahead of that extended expiry date, this Regulation should apply earlier than that date.
- (18) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

HAS ADOPTED THIS REGULATION:

Article 1

Renewal of the approval of the active substance

The approval of the active substance *Bacillus thuringiensis* subsp. *kurstaki* PB 54, as specified in Annex I, is renewed, subject to the conditions laid down in that Annex.

Article 2

Amendments to Implementing Regulation (EU) No 540/2011

The Annex to Implementing Regulation (EU) No 540/2011 is amended in accordance with Annex II to this Regulation.

Article 3

Entry into force and application

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

It shall apply from 1 July 2023.

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

Done at Brussels, 24 May 2023.

For the Commission

The President

Ursula VON DER LEYEN

⁽⁷⁾ Commission Implementing Regulation (EU) 2023/689 of 20 March 2023 amending Implementing Regulation (EU) No 540/2011 as regards the extension of the approval periods of the active substances *Bacillus subtilis* (Cohn 1872) strain QST 713, *Bacillus thuringiensis* subsp. *Aizawai* strains ABTS-1857 and GC-91, *Bacillus thuringiensis* subsp. *Israeliensis* (serotype H-14) strain AM65-52, *Bacillus thuringiensis* subsp. *Kurstaki* strains ABTS 351, PB 54, SA 11, SA12 and EG 2348, *Beauveria bassiana* strains ATCC 74040 and GHA, clodinafop, *Cydia pomonella Granulovirus* (CpGV), cyprodinil, dichlorprop-P, fenpyroximate, fosetyl, malathion, mepanipyrim, metconazole, metrafenone, pirimicarb, pyridaben, pyrimethanil, rimsulfuron, spinosad, *Trichoderma asperellum* (formerly *T. harzianum*) strains ICC012, T25 and TV1, *Trichoderma atroviride* (formerly *T. harzianum*) strain T11, *Trichoderma gamsii* (formerly *T. viride*) strain ICC080, *Trichoderma harzianum* strains T-22 and ITEM 908, triclopyr, trinexapac, triticonazole and ziram (OJ L 91, 29.3.2023, p. 1).

ANNEX I

Common Name, Identification Numbers	IUPAC Name	Purity ⁽¹⁾	Date of approval	Expiration of approval	Specific provisions
<i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54	n.a.	No relevant impurities	1 July 2023	30 June 2038	The implementation of the uniform principles, as provided for in Article 29(6) of Regulation (EC) No 1107/2009, requires that the conclusions of the review report on <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 and in particular Appendices I and II thereto, are taken into account. In this overall assessment, the Member States shall pay particular attention to: — the protection of operators and workers, taking into account that micro-organisms are <i>per se</i> considered as potential sensitisers, ensuring that adequate personal protective equipment is included as a condition of use; — the assurance by the producer of strict maintenance of environmental conditions and quality control analysis during the manufacturing process, in order to ensure the fulfilment of the limits on microbiological contamination as referred to in the Working Document SANCO/12116/2012 ⁽²⁾. Conditions of use shall include the following risk mitigation measures: — a minimum time period of 2 days shall be kept between the application of plant protection products containing <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 and the harvest of edible crops used for fresh consumption, unless available measured or estimated residues data show levels of <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 below 10⁵ CFU/g at harvest. The applicant shall submit to the Commission, the Member States and the Authority additional information as regards: — data in at least one representative edible crop (i.e. on stone fruits and tomatoes) regarding the density decline of viable spores of <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 on edible plant parts from the time of application of a plant protection product containing this active substance until the time of harvest or until levels found are below 10⁵ CFU/g, including storage stability data of the micro-organisms between the sampling and the spore counting analysis. The relevant methods and protocols to be employed shall be agreed between the applicant and the Rapporteur Member State by 14 December 2025.

⁽¹⁾ Further details on the identity and the specification of the active substance are provided in the renewal report.

⁽²⁾ pesticides_ppp_app-proc_guide_phys-chem-ana_microbial-contaminant-limits.pdf (europa.eu).

The Annex to Implementing Regulation (EU) No 540/2011 is amended as follows:

- (1) in part A, entry 195 is deleted,
 (2) in Part B, the following entry is added:

No.	Common Name, Identification Numbers	IUPAC Name	Purity ⁽¹⁾	Date of approval	Expiration of approval	Specific provisions
164	<i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54	n.a.	No relevant impurities	1 July 2023	30 June 2038	The implementation of the uniform principles, as provided for in Article 29(6) of Regulation (EC) No 1107/2009, requires that the conclusions of the review report on <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 and in particular Appendices I and II thereto, are taken into account. In this overall assessment, the Member States shall pay particular attention to: — the protection of operators and workers, taking into account that micro-organisms are <i>per se</i> considered as potential sensitisers, ensuring that adequate personal protective equipment is included as a condition of use; — the assurance by the producer of strict maintenance of environmental conditions and quality control analysis during the manufacturing process, in order to ensure the fulfilment of the limits on microbiological contamination as referred to in the Working Document SANCO/12116/2012 ⁽²⁾. Conditions of use shall include the following risk mitigation measures: — a minimum time period of 2 days shall be kept between the application of plant protection products containing <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 and the harvest of edible crops used for fresh consumption, unless available measured or estimated residues data show levels of <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 below 10⁵ CFU/g as recommended by EFSA. The applicant shall submit to the Commission, the Member States and the Authority additional information as regards: — data in at least one representative edible crop (i.e. on stone fruits and tomatoes) regarding the density decline of viable spores of <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> PB 54 on edible plant parts from the time of application of a plant protection product containing this active substance until the time of harvest or until levels found are below 10⁵ CFU/g, including storage stability data of the micro-organisms between the sampling and the spore counting analysis. The relevant methods and protocols to be employed shall be agreed between the applicant and the Rapporteur Member State by 14 December 2025.

⁽¹⁾ Further details on the identity and the specification of the active substance are provided in the renewal report.

⁽²⁾ pesticides_ppp_app-proc_guide_phys-chem-ana_microbial-contaminant-limits.pdf (europa.eu).'

DECISIONS

DECISION (EU) 2023/1022 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 10 May 2023

on the mobilisation of the European Globalisation Adjustment Fund for Displaced Workers following an application from Spain – EGF/2022/003 ES/Alu Ibérica

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2021/691 of the European Parliament and of the Council of 28 April 2021 on the European Globalisation Adjustment Fund for Displaced Workers (EGF) and repealing Regulation (EU) No 1309/2013 ⁽¹⁾, and in particular Article 15(1), first subparagraph, thereof,

Having regard to the Interinstitutional Agreement of 16 December 2020 between the European Parliament, the Council of the European Union and the European Commission on budgetary discipline, on cooperation in budgetary matters and on sound financial management, as well as on new own resources, including a roadmap towards the introduction of new own resources ⁽²⁾, and in particular point 9 thereof,

Having regard to the proposal from the European Commission,

Whereas:

- (1) The European Globalisation Adjustment Fund for Displaced Workers (EGF) aims to demonstrate solidarity and promote decent and sustainable employment in the Union by providing support for workers made redundant and self-employed persons whose activity has ceased in the case of major restructuring events and assisting them in returning to decent and sustainable employment as soon as possible.
- (2) The EGF is not to exceed a maximum annual amount of EUR 186 million (in 2018 prices), as laid down in Article 8 of Council Regulation (EU, Euratom) 2020/2093 ⁽³⁾.
- (3) On 30 November 2022, Spain submitted an application to mobilise the EGF, in respect of worker's displacements in Alu Ibérica LC S.L. in Spain. It was supplemented by additional information provided in accordance with Article 8(5) of Regulation (EU) 2021/691. That application complies with the conditions for a financial contribution from the EGF as laid down in Article 13 of Regulation (EU) 2021/691.
- (4) The EGF should, therefore, be mobilised in order to provide a financial contribution of EUR 1 275 000 in respect of the application submitted by Spain.
- (5) In order to minimise the time taken to mobilise the EGF, this decision should apply from the date of its adoption,

⁽¹⁾ OJ L 153, 3.5.2021, p. 48.

⁽²⁾ OJ L 433 I, 22.12.2020, p. 28.

⁽³⁾ Council Regulation (EU, Euratom) 2020/2093 of 17 December 2020 laying down the multiannual financial framework for the years 2021 to 2027 (OJ L 433 I, 22.12.2020, p. 11).

HAVE ADOPTED THIS DECISION:

Article 1

For the general budget of the Union for the financial year 2023, the European Globalisation Adjustment Fund for Displaced Workers shall be mobilised to provide the amount of EUR 1 275 000 in commitment and payment appropriations.

Article 2

This Decision shall enter into force on the day of its publication in the *Official Journal of the European Union*. It shall apply from 10 May 2023.

Done at Strasbourg, 10 May 2023.

For the European Parliament
The President
R. METSOLA

For the Council
The President
J. ROSWALL

POLITICAL AND SECURITY COMMITTEE DECISION (CFSP) 2023/1023**of 16 May 2023****on the appointment of the Head of Mission of the European Union CSDP mission in Niger (EUCAP Sahel Niger) (EUCAP Sahel Niger/1/2023)**

THE POLITICAL AND SECURITY COMMITTEE,

Having regard to the Treaty on European Union, and in particular the third paragraph of Article 38 thereof,

Having regard to Council Decision 2012/392/CFSP of 16 July 2012 on the European Union CSDP mission in Niger (EUCAP Sahel Niger) ⁽¹⁾, and in particular Article 9(1) thereof,

Whereas:

- (1) Pursuant to Decision 2012/392/CFSP, the Political and Security Committee (PSC) is authorised, in accordance with the third paragraph of Article 38 of the Treaty, to take the relevant decisions for the purpose of exercising the political control and strategic direction of the European Union CSDP mission in Niger (EUCAP Sahel Niger), including the decision to appoint a Head of Mission.
- (2) On 9 September 2022, the Council adopted Decision (CFSP) 2022/1505 ⁽²⁾, amending Decision 2012/392/CFSP and extending the mandate of EUCAP Sahel Niger until 30 September 2024.
- (3) On 20 September 2022, the PSC adopted Decision (CFSP) 2022/1649 ⁽³⁾, extending the mandate of Ms Antje PITTELKAU as Head of Mission of EUCAP Sahel Niger from 1 October 2022 to 30 September 2023.
- (4) On 11 February 2023, Ms Antje PITTELKAU resigned as the Head of Mission of EUCAP Sahel Niger with effect from 21 May 2023.
- (5) On 24 April 2023, the High Representative of the Union for Foreign Affairs and Security Policy proposed the appointment of Ms Katja DOMINIK as Head of Mission of EUCAP Sahel Niger from 4 June 2023 until 30 September 2024,

HAS ADOPTED THIS DECISION:

Article 1

Ms Katja DOMINIK is hereby appointed as Head of Mission of the European Union CSDP mission in Niger (EUCAP Sahel Niger) from 4 June 2023 until 30 September 2024.

Article 2

This Decision shall enter into force on the date of its adoption.

It shall apply from 4 June 2023.

⁽¹⁾ OJ L 187, 17.7.2012, p. 48.

⁽²⁾ Council Decision (CFSP) 2022/1505 of 9 September 2022 amending Decision 2012/392/CFSP on the European Union CSDP mission in Niger (EUCAP Sahel Niger) (OJ L 235, 12.9.2022, p. 28).

⁽³⁾ Political and Security Committee Decision (CFSP) 2022/1649 of 20 September 2022 extending the mandate of the Head of Mission of the European Union CSDP mission in Niger (EUCAP Sahel Niger/1/2022) (OJ L 248, 26.9.2022, p. 57).

Done at Brussels, 16 May 2023.

For the Political and Security Committee
The Chairperson
D. PRONK

POLITICAL AND SECURITY COMMITTEE DECISION (CFSP) 2023/1024**of 16 May 2023****on the appointment of the Head of Mission of the European Union Advisory Mission for Civilian Security Sector Reform Ukraine (EUAM Ukraine) (EUAM Ukraine/1/2023)**

THE POLITICAL AND SECURITY COMMITTEE,

Having regard to the Treaty on European Union, and in particular the third paragraph of Article 38 thereof,

Having regard to Council Decision 2014/486/CFSP of 22 July 2014 on the European Union Advisory Mission for Civilian Security Sector Reform Ukraine (EUAM Ukraine) ⁽¹⁾, and in particular Article 7 thereof,

Whereas:

- (1) Pursuant to Article 7 of Decision 2014/486/CFSP, the Political and Security Committee is authorised, in accordance with Article 38 of the Treaty, to take the relevant decisions for the purpose of exercising the political control and strategic direction of the European Union Advisory Mission for Civilian Security Sector Reform Ukraine (EUAM Ukraine) including, in particular, the decision to appoint a Head of Mission.
- (2) On 20 May 2021, the Council adopted Decision (CFSP) 2021/813 ⁽²⁾, extending the mandate of EUAM Ukraine until 31 May 2024.
- (3) On 10 May 2022, the Political and Security Committee adopted Decision (CFSP) 2022/744 ⁽³⁾, extending the mandate of Mr Antti HARTIKAINEN as the Head of Mission until 31 May 2023.
- (4) On 24 April 2023, the High Representative of the Union for Foreign Affairs and Security Policy proposed the appointment of Mr Rolf Michael Hay Pereira HOLMBOE as the Head of Mission of EUAM Ukraine,

HAS ADOPTED THIS DECISION:

Article 1

Mr Rolf Michael Hay Pereira HOLMBOE is hereby appointed as Head of Mission of the European Union Advisory Mission for Civilian Security Sector Reform Ukraine (EUAM Ukraine) from 12 June 2023 to 31 May 2024.

Article 2

This Decision shall enter into force on the date of its adoption.

Done at Brussels, 16 May 2023.

For the Political and Security Committee
The Chairperson
D. PRONK

⁽¹⁾ OJ L 217, 23.7.2014, p. 42.

⁽²⁾ Council Decision (CFSP) 2021/813 of 20 May 2021 amending Decision 2014/486/CFSP on the European Union Advisory Mission for Civilian Security Sector Reform Ukraine (EUAM Ukraine) (OJ L 180, 21.5.2021, p. 149).

⁽³⁾ Political and Security Committee Decision (CFSP) 2022/744 of 10 May 2022 extending the mandate of the Head of Mission of the European Union Advisory Mission for Civilian Security Sector Reform Ukraine (EUAM Ukraine) (EUAM UKRAINE/1/2022) (OJ L 137, 16.5.2022, p. 82).

COUNCIL IMPLEMENTING DECISION (EU) 2023/1025**of 22 May 2023****authorising Hungary to apply a special measure derogating from Article 287 of Directive 2006/112/EC on the common system of value added tax, and repealing Implementing Decision (EU) 2018/1490**

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax ⁽¹⁾, and in particular Article 395(1), first subparagraph, thereof,

Having regard to the proposal from the European Commission,

Whereas:

- (1) Article 287, point (12), of Directive 2006/112/EC allows Hungary to exempt from value added tax (VAT) taxable persons whose annual turnover is no higher than the equivalent in national currency of EUR 35 000 at the conversion rate on the day of its accession.
- (2) By Council Implementing Decision (EU) 2022/73 ⁽²⁾, Hungary was authorised, until 31 December 2024, to continue to apply a special measure derogating from Article 287, point (12), of Directive 2006/112/EC and thus to exempt from VAT taxable persons whose annual turnover is no higher than the equivalent in national currency of EUR 48 000 at the conversion rate on the day of its accession to the Union (the 'special measure').
- (3) By letter registered with the Commission on 15 December 2022, Hungary requested an authorisation to increase the threshold of the existing special measure to EUR 71 500 for the remainder of the authorised period.
- (4) Pursuant to Article 395(2), second subparagraph, of Directive 2006/112/EC, the Commission transmitted the request made by Hungary to the other Member States by letter dated 11 January 2023. By letter dated 12 January 2023, the Commission notified Hungary that it had all the information necessary for the appraisal of the request.
- (5) The special measure requested by Hungary is in line with Council Directive (EU) 2020/285 ⁽³⁾, which seeks to reduce the compliance burden for small enterprises and avoid distortions of competition in the internal market.
- (6) The special measure will remain optional for taxable persons as they can still opt for the regular VAT arrangements pursuant to Article 290 of Directive 2006/112/EC.
- (7) According to the information provided by Hungary, the special measure will only have a negligible effect on the overall amount of the tax revenue of Hungary collected at the stage of final consumption.

⁽¹⁾ OJ L 347, 11.12.2006, p. 1.

⁽²⁾ Council Implementing Decision (EU) 2022/73 of 18 January 2022 amending Implementing Decision (EU) 2018/1490 as regards authorisation to Hungary to apply for a further period the special measure derogating from Article 287 of Directive 2006/112/EC on the common system of value added tax (OJ L 12, 19.1.2022, p. 148).

⁽³⁾ Council Directive (EU) 2020/285 of 18 February 2020 amending Directive 2006/112/EC on the common system of value added tax as regards the special scheme for small enterprises and Regulation (EU) No 904/2010 as regards the administrative cooperation and exchange of information for the purpose of monitoring the correct application of the special scheme for small enterprises (OJ L 62, 2.3.2020, p. 13).

- (8) Following the entry into force of Council Regulation (EU, Euratom) 2021/769 ⁽⁴⁾, there is to be no compensation calculation carried out by Hungary with regard to the VAT-based own resource statement for the financial year 2021 onwards.
- (9) Given that the special measure has had a positive impact on the simplification of VAT-related obligations, as it has reduced the administrative burden and compliance costs for both small enterprises and tax authorities, and given that it lacks any major impact on the total VAT revenue generated, Hungary should be authorised to apply the special measure.
- (10) The application of the special measure should be limited in time. The time limit should be sufficient to allow the Commission to evaluate the effectiveness and appropriateness of the threshold. Moreover, pursuant to Article 3(1) of Directive (EU) 2020/285, Member States are to adopt and publish, by 31 December 2024, the laws, regulations and administrative provisions necessary to comply with Article 1(12) of that Directive and are to apply those provisions from 1 January 2025. It is therefore appropriate to authorise Hungary to apply the special measure until 31 December 2024.
- (11) Council Implementing Decision (EU) 2018/1490 ⁽⁵⁾ should therefore be repealed,

HAS ADOPTED THIS DECISION:

Article 1

By way of derogation from Article 287, point (12), of Directive 2006/112/EC, Hungary is authorised to exempt from VAT taxable persons whose annual turnover is no higher than the equivalent in national currency of EUR 71 500 at the conversion rate on the day of its accession.

Article 2

Implementing Decision (EU) 2018/1490 is repealed.

Article 3

This Decision shall take effect on the date of its notification.

It shall apply until 31 December 2024.

Article 4

This Decision is addressed to Hungary.

Done at Brussels, 22 May 2023.

For the Council

The President

J. BORRELL FONTELLES

⁽⁴⁾ Council Regulation (EU, Euratom) 2021/769 of 30 April 2021 amending Regulation (EEC, Euratom) No 1553/89 on the definitive uniform arrangements for the collection of own resources accruing from value added tax (OJ L 165, 11.5.2021, p. 9).

⁽⁵⁾ Council Implementing Decision (EU) 2018/1490 of 2 October 2018 authorising Hungary to introduce a special measure derogating from Article 287 of Directive 2006/112/EC on the common system of value added tax (OJ L 252, 8.10.2018, p. 38).

III

(Other acts)

EUROPEAN ECONOMIC AREA

EFTA SURVEILLANCE AUTHORITY DECISION No 230/22/COL

of 15 December 2022

amending the substantive rules in the field of State aid by introducing new Guidelines on State aid for research, development and innovation [2023/1026]

THE EFTA SURVEILLANCE AUTHORITY (ESA),

Having regard to the Agreement on the European Economic Area ('the EEA Agreement'), in particular to Articles 61 to 63 and Protocol 26,

Having regard to the Agreement between the EFTA States on the Establishment of a Surveillance Authority and a Court of Justice ('the Surveillance and Court Agreement'), in particular to Article 24 and Article 5(2)(b),

Having regard to Protocol 3 to the Surveillance and Court Agreement ('Protocol 3'), in particular to Article 1(1) of Part I,

Whereas:

Under Article 24 of the Surveillance and Court Agreement, ESA shall give effect to the provisions of the EEA Agreement concerning State aid.

Under Article 5(2)(b) of the Surveillance and Court Agreement, ESA shall issue notices or guidelines on matters dealt with in the EEA Agreement, if that Agreement or the Surveillance and Court Agreement expressly so provides or if ESA considers it necessary.

Under Article 1(1) of Part I of Protocol 3 to the Surveillance and Court Agreement, ESA shall keep under constant review all systems of aid existing in the EFTA States ⁽¹⁾ and propose any appropriate measures required by the progressive development or by the functioning of the EEA Agreement.

ESA's Guidelines on State aid for research and development and innovation ⁽²⁾, as amended ⁽³⁾, correspond to the European Commission's ('the Commission') Framework on State aid for research and development and innovation ('the Commission's 2014 R&D&I Framework') ⁽⁴⁾, as amended on 8 July 2020 ⁽⁵⁾.

⁽¹⁾ Article 1(b) of the Surveillance and Court Agreement states that 'the term "EFTA States" means the Republic of Iceland and the Kingdom of Norway and, under the conditions laid down by Article 1(2) of the Protocol Adjusting the Agreement between the EFTA States on the Establishment of a Surveillance Authority and a Court of Justice, the Principality of Liechtenstein'.

⁽²⁾ ESA's Guidelines on State aid for research and development and innovation (OJ L 209, 6.8.2015, p. 17) and EEA Supplement No 44, 6.8.2015, p. 1.

⁽³⁾ EFTA Surveillance Authority Decision No 90/20/COL of 15 July 2020 amending, for the one hundred and seventh time, the procedural and substantive rules in the field of State aid, by amending and prolonging certain State aid Guidelines [2020/1576] (OJ L 359, 29.10.2020, p. 16).

⁽⁴⁾ Communication from the Commission- Framework for State aid for research and development and innovation (OJ C 198, 27.6.2014, p. 1).

⁽⁵⁾ Communication from the Commission concerning the prolongation and the amendments of the Guidelines on Regional State Aid for 2014–2020, Guidelines on State Aid to Promote Risk Finance Investments, Guidelines on State Aid for Environmental Protection and Energy 2014–2020, Guidelines on State aid for rescuing and restructuring non-financial undertakings in difficulty, 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, Communication from the Commission – Framework for State aid for research and development and innovation and Communication from the Commission to the Member States on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to short-term export-credit insurance. 2020/C 224/02 (OJ C 224, 8.7.2020, p. 2).

On 19 October 2022, the Commission adopted a revised State aid framework for research and development and innovation ('the 2022 R&D&I Framework') ⁽⁶⁾.

The 2022 R&D&I Framework is also of relevance for the European Economic Area ('EEA').

Uniform application of the EEA State aid rules is to be ensured throughout the European Economic Area in line with the objective of homogeneity established in Article 1 of the EEA Agreement.

According to point II under the heading 'GENERAL' on page 11 of Annex XV to the EEA Agreement, ESA, after consultation with the Commission, is to adopt acts corresponding to those adopted by the Commission.

The 2022 R&D&I Framework may refer to certain European Union policy instruments and to certain European Union legal acts that have not been incorporated into the EEA Agreement. With a view to ensuring uniform application of State aid provisions and equal conditions of competition throughout the EEA, ESA will generally apply the same points of reference as the Commission when assessing the compatibility of aid with the functioning of the EEA Agreement.

Having consulted the Commission,

Having consulted the EFTA States,

HAS ADOPTED THIS DECISION:

Article 1

(1) The substantive rules in the field of State aid shall be amended by introducing new Guidelines on State aid for research and development and innovation ('the R&D&I Guidelines'). The R&D&I Guidelines, in form of the 2022 R&D&I Framework, are annexed to this Decision and form an integral part of it.

(2) ESA will follow the principles and guidelines set out in the R&D&I Guidelines for the compatibility assessment of all notified R&D&I aid in respect of which it is called upon to take a decision after 15 December 2022. Unlawful R&D&I aid will be assessed in accordance with the rules applicable on the date on which the aid was awarded.

Article 2

ESA applies the 2022 R&D&I Framework with the following adaptations where applicable, including, but not limited to:

- (a) if there is a reference to 'Member State(s)', ESA reads it as a reference to 'EFTA State(s)' ⁽⁷⁾, or where appropriate 'EEA State(s)';
- (b) if there is a reference to the 'European Commission', ESA reads it, where appropriate, as a reference to the 'EFTA Surveillance Authority';
- (c) if there is a reference to 'the Treaty' or 'TFEU', ESA reads it as a reference to 'the EEA Agreement';
- (d) if there is a reference to 'Union rules on State Aid', ESA reads it as a reference to 'the EEA rules on State Aid';
- (e) if there is a reference to Article 107 TFEU or sections of that Article, ESA reads it as a reference to Article 61 of the EEA Agreement and the corresponding sections of that Article;

⁽⁶⁾ O C(2022) 7388 final, not yet published in the *Official Journal of the European Union*.

⁽⁷⁾ The 'EFTA States' refers to Iceland, Liechtenstein and Norway.

- (f) if there is a reference to Article 108 TFEU or sections of that Article, ESA reads it as a reference to Article 1 of Part I of Protocol 3 of the Surveillance and Court Agreement and the corresponding sections of that Article;
- (g) if there is a reference to Council Regulation (EU) 2015/1589 ⁽⁸⁾, ESA reads it as a reference to Part II of Protocol 3 of the Surveillance and Court Agreement;
- (h) if there is a reference to Commission Regulation (EC) No 794/2004 ⁽⁹⁾, ESA reads it as a reference to EFTA Surveillance Authority Decision 195/04/COL;
- (i) if there is a reference to the wording '(in-)compatible with the internal market', ESA reads it as '(in-)compatible with the functioning of the EEA Agreement';
- (j) if there is a reference to the wording 'within (or outside) the Union', ESA reads it as 'within (or outside) the EEA';
- (k) if there is a reference to 'intra-Union trade', ESA reads it as a reference to 'intra-EEA trade';
- (l) if the 2022 R&D&I Framework sets out that they will be applied to 'all sectors of economic activity', ESA applies them to 'all sectors of economic activity or parts of sectors of economic activity falling within the scope of the EEA Agreement';
- (m) if there is a reference to Commission Communications, Notices or Guidelines, ESA reads it as a reference to the corresponding ESA Guidelines.

Article 3

- (1) Point 156 of the 2022 R&D&I Framework is replaced by:

'Pursuant to Article 1(1) of Part I of Protocol 3 of the Surveillance and Court Agreement, ESA proposes that EFTA States amend, where necessary, their existing R&D&I aid schemes to ensure compliance with these R&D&I Guidelines no later than 6 months as of entry into force of these guidelines.'

- (2) Point 157 of the 2022 R&D&I Framework is replaced by:

'EFTA States are invited to give their explicit unconditional agreement to the appropriate measures referred to in point 156 by 17 February 2023. In the absence of a reply from any of the EFTA States, ESA will consider that the EFTA State in question does not agree with the proposed measures.'

Done at Brussels, 15 December 2022.

For the EFTA Surveillance Authority

Arne RØKSUND
President
Responsible College Member

Árni Páll ÁRNASON
College Member

Stefan BARRIGA
College Member

Melpo-Menie JOSÉPHIDÈS
Countersigning as Director,
Legal and Executive Affairs

⁽⁸⁾ Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union (OJ L 248, 24.9.2015, p. 9).

⁽⁹⁾ Commission Regulation (EC) No 794/2004 of 21 April 2004 implementing Council Regulation (EU) 2015/1589 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union (OJ L 140, 30.4.2004, p. 1).

ANNEX

COMMUNICATION FROM THE COMMISSION**Framework for State aid for research and development and innovation****Introduction**

1. In order to prevent State subsidies from distorting or threaten to distort competition in the internal market and affecting trade between Member States, Article 107(1) of the Treaty on the Functioning of the European Union ('the Treaty') lays down the principle that State Aid is prohibited. In certain cases, however, such aid may be compatible with the internal market on the basis of Articles 107(2) and 107(3) of the Treaty.
2. This Framework provides guidance on the basis of a compatibility assessment conducted by the Commission regarding aid to promote research, development and innovation ('R&D&I') under Article 107(3)(c) of the Treaty. Under Article 107(3)(c) of the Treaty, an aid measure may be declared compatible with the internal market provided that two conditions, a positive and a negative one, are fulfilled. The positive condition requires that the aid must facilitate the development of an economic activity. The negative condition requires that the aid must not adversely affect trading conditions to an extent contrary to the common interest.
3. Whereas it is generally accepted that competitive markets tend to bring about efficient results in terms of prices, output and use of resources, in the presence of market failures ⁽¹⁾ State intervention may be necessary to facilitate or incentivise the development of certain economic activities that, in the absence of aid, would not develop or would not develop at the same pace or under the same conditions and, thereby, contribute to smart, sustainable and inclusive growth. In the context of R&D&I, market failures may arise for instance because market players do not necessarily or at least spontaneously take into account the wider positive effects for the European economy, consider reaching a positive economic result as overly risky, and therefore, in the absence of State aid, would engage in a level of R&D&I activities which is too low from the point of view of society. Likewise, in the absence of State aid, R&D&I projects may suffer from insufficient access to finance, due to asymmetric information, or from coordination problems among firms.
4. Therefore, State aid may be necessary to increase R&D&I in a situation where the market, on its own, fails to deliver an efficient outcome hence facilitating the development of certain economic activities. The R&D&I Framework applies to all technologies ⁽²⁾, industries and sectors to ensure that the rules do not prescribe in advance which research paths would result in new solutions for products, processes and services and do not distort market players' incentives to develop innovative technological solutions even in the presence of high risks. Moreover, support granted under the R&D&I Framework can also contribute to a sustainable recovery following serious economic disturbances and support efforts to strengthen the Union's social and economic resilience. In addition, aid to support R&D&I is likely to bring about wider positive effects than the sole benefits for the aided beneficiary.

⁽¹⁾ The term 'market failure' refers to situations in which markets, left to their own devices, are unlikely to produce efficient outcomes.

⁽²⁾ Amongst others, the rules aim to support R&D&I for digitalisation activities which are understood for the purpose of this Framework as the adoption of innovative technologies carried out by electronic devices and/or systems which make it possible to increase product functionality, develop online services, modernise processes, or migrate to business models based on the disintermediation of goods production and service delivery, eventually producing a transformative impact. R&D&I for digitalisation activities under this Framework are eligible for State aid unless they constitute purely replacement investments in the case of which the necessity and incentive effect of aid is questionable.

5. Staid aid to R&D&I may, for example, bring about positive effects identified in the Union's objectives or strategies such as the European Green Deal ⁽³⁾, the Digital Strategy ⁽⁴⁾, the Digital Decade ⁽⁵⁾ and European Strategy for Data ⁽⁶⁾, the New Industrial Strategy for Europe ⁽⁷⁾ and its update ⁽⁸⁾, Next Generation EU ⁽⁹⁾, the European Health Union ⁽¹⁰⁾, the new European Research Area for research and innovation ⁽¹¹⁾, the new Circular Economy Action Plan ⁽¹²⁾, or the Union's objective to become climate neutral by 2050, among others. In the European Green Deal, the Commission stresses that 'new technologies, sustainable solutions and disruptive innovation are critical to achieve the objectives of the European Green Deal.'
6. The recently adopted ERA Communication identifies R&I as a key driver for boosting Europe's recovery, accelerating the green and digital transitions. The Communication aims at increasing the efficiency, excellence and impact of Europe's R&I system and supports innovation. To that effect, the Commission proposed that the Member States re-affirm the 3 % EU GDP R&D ⁽¹³⁾ investment target and update it to reflect new EU priorities, including a new 1,25 % EU GDP public effort target to be achieved by Member States by 2030 in an EU coordinated manner, to leverage and incentivise private investments.
7. According to the Communication on Shaping Europe's Digital Future and on a European Strategy for Data there is a need 'to ensure that digital solutions help Europe to pursue its own way towards a digital transformation that works for the benefit of people through respecting the European values.'
8. The New Industrial Strategy for Europe sets out that Europe needs 'research and technologies and a strong single market which brings down barriers and cuts red tape.' It acknowledges that, 'stepping up investment in research, innovation, deployment and up-to-date infrastructure will help develop new production processes and create jobs in the process.'

1. Scope of application and definitions

1.1. Scope of application

9. The principles set out in this framework concern State aid for R&D&I in all sectors governed by the Treaty ⁽¹⁴⁾. It therefore concerns those sectors which are subject to specific Union rules on State aid, unless such specific rules provide otherwise.

⁽³⁾ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions – 'The European Green Deal', COM(2019) 640 final, 11 December 2019.

⁽⁴⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – 'Shaping Europe's digital future', COM(2020) 67 final, 19 February 2020.

⁽⁵⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – '2030 Digital Compass: the European way for the Digital Decade', COM(2021), 118 final, 9 March 2021.

⁽⁶⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – 'A European strategy for data', COM(2020) 66 final, 19 February 2020.

⁽⁷⁾ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions – 'A New Industrial Strategy for Europe', COM(2020) 102 final, 10 March 2020.

⁽⁸⁾ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions – 'Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery', COM(2021) 350 final, 5 May 2021.

⁽⁹⁾ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions – 'Europe's moment: Repair and Prepare for the Next Generation', COM(2020) 456 final, 27 May 2020.

⁽¹⁰⁾ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions – 'Building a European Health Union - preparedness and resilience', COM(2020) 724 final, 11 November 2020.

⁽¹¹⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – 'A new ERA for Research and Innovation', COM(2020) 628 final, 30 September 2020.

⁽¹²⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – 'A new Circular Economy Action Plan For a cleaner and more competitive Europe', COM(2020) 98 final, 11 March 2020.

⁽¹³⁾ This target was endorsed in the Council (Competitiveness) Conclusions of 1 December 2020.

⁽¹⁴⁾ This framework does not apply to patent box regimes.

10. Union funding centrally managed by the institutions, agencies, joint undertakings or other bodies of the Union that is not directly or indirectly under the control of Member States ⁽¹⁵⁾ does not constitute State aid. Where such Union funding is combined with State aid, only that State aid will be considered for determining whether notification thresholds and maximum aid intensities are respected or, in the context of this framework, subject to a compatibility assessment.
11. Aid for R&D&I for firms in difficulty, as defined for the purposes of this framework by the Community guidelines on State aid for rescuing and restructuring firms in difficulty ⁽¹⁶⁾, as amended or replaced, is excluded from the scope of this framework.
12. When assessing R&D&I aid in favour of a beneficiary that is subject to an outstanding recovery order following a previous Commission decision declaring an aid illegal and incompatible with the internal market, the Commission will take account of the amount of aid still to be recovered ⁽¹⁷⁾.

1.2. Aid measures covered by the framework

13. The Commission has identified a series of R&D&I measures for which State aid may, under specific conditions, be compatible with the internal market:
 - (a) **aid for R&D projects** where the aided part of the research project falls within the categories of fundamental research and applied research, of which the latter can be divided into industrial research and experimental development ⁽¹⁸⁾. Such aid is mainly targeted at the market failure related to positive externalities (knowledge spill-overs), but may also address a market failure caused by imperfect and asymmetric information or (mainly in collaboration projects) a coordination failure;
 - (b) **aid for feasibility studies** related to R&D projects, which helps overcoming a market failure primarily related to imperfect and asymmetric information;
 - (c) **aid for the construction and upgrade of research infrastructures**, which mainly addresses the market failure stemming from coordination difficulties but also from imperfect and asymmetric information. High-quality research infrastructures are increasingly necessary for ground-breaking research, as they attract global talent and are essential for example for information and communication technologies and key enabling technologies ⁽¹⁹⁾. High up-front investment costs for acquiring state of the art scientific facilities and equipment used for early stage research activities, predominantly by the scientific community, make it often impossible to find the necessary financing on the market;
 - (d) **aid for the construction and upgrade of testing and experimentation infrastructures**, mainly addresses the market failure stemming from imperfect and asymmetric information or a coordination failure. Constructing or upgrading a state of the art testing and experimentation infrastructure involves high up-front investment costs, which together with an uncertain client base can render access to financing difficult. Access to publicly funded testing and experimentation infrastructures must be granted on a transparent and non-discriminatory basis and on market terms to several users. To facilitate users' access to testing and experimentation infrastructures, their user fees can be reduced in compliance with other provisions of this Framework or of Commission Regulation (EU) No 651/2014 ⁽²⁰⁾ or the de-minimis Regulation ⁽²¹⁾;

⁽¹⁵⁾ Including funding provided under Horizon Europe or the Digital Europe Programme.

⁽¹⁶⁾ Communication from the Commission, 'Community Guidelines on State aid for rescuing and restructuring firms in difficulty' (OJ C 244, 1.10.2004, p. 2).

⁽¹⁷⁾ See Judgment of the Court of First Instance of 13 September 1995, *TWD Textilwerke Deggendorf GmbH v. Commission*, Joined Cases T-244/93 and T-486/93, ECLI:EU:T:1995:160.

⁽¹⁸⁾ The Commission considers that it is useful to maintain different categories of R&D activities regardless of the fact that those activities may follow an interactive model rather than a linear model.

⁽¹⁹⁾ Key enabling technologies are defined and identified in the Communication from the Commission, 'A European strategy for Key Enabling Technologies – A bridge to growth and jobs', COM(2012) 341 final, 26.6.2012.

⁽²⁰⁾ 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 Text with EEA relevance (OJ L 187, 26.6.2014, p. 1).

⁽²¹⁾ 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).

- (e) **aid for innovation activities**, which is mainly targeted at market failures related to positive externalities (knowledge spill-overs), coordination difficulties and, to a lesser extent, asymmetric information. With respect to small and medium-sized enterprises ('SMEs'), such innovation aid may be awarded for obtaining, validating and defending patents and other intangible assets, for the secondment of highly qualified personnel, and for acquiring innovation advisory and support services, for example those provided by research and knowledge dissemination organisations, research infrastructures, testing and experimentation infrastructures or innovation clusters;
 - (f) **aid for process and organisational innovation**, which is mainly targeted at market failures related to positive externalities (knowledge spill-overs), coordination difficulties and, to a lesser extent, asymmetric information. These aid measures can be awarded predominantly to SMEs. Aid to large undertakings shall only be compatible if they effectively collaborate with at least one SME in the aided activity.
 - (g) **aid for innovation clusters**, which aims at tackling market failures linked with coordination problems hampering the development of clusters, limiting the interactions and knowledge flows within and between clusters. State aid could contribute to resolving this problem, first by supporting the investment in open and shared infrastructures for innovation clusters, and second by supporting the operation of clusters with a view to enhancing collaboration, networking and learning. Operating aid for clusters would need to be duly justified by the Member State especially when it exceeds ten years. The fees charged for using the innovation cluster's facilities and for participating in the innovation cluster's activities shall correspond to the market price or reflect their costs (including a reasonable margin). To facilitate access to the innovation cluster's facilities or participation in the innovation cluster's activities, access can be offered at reduced prices in compliance with other provisions of this Framework or of Regulation (EU) No 651/2014 or the de-minimis Regulation rules as applicable to the users of the services provided by the innovation cluster.
14. Member States must notify R&D&I aid pursuant to Article 108(3) of the Treaty, with the exception of measures that fulfil the conditions laid down in a block exemption Regulation adopted by the Commission pursuant to Article 1 of Council Regulation (EU) No 2015/1588 ⁽²²⁾.
15. This framework sets out the compatibility criteria for R&D&I aid schemes and individual aid which are subject to the notification requirement and must be assessed on the basis of Article 107(3)(c) of the Treaty ⁽²³⁾.
- 1.3. **Definitions**
16. For the purposes of this framework, the following definitions apply:
- (a) **'ad hoc aid'** means aid not awarded on the basis of an aid scheme;
 - (b) **'aid'** means any measure fulfilling the criteria laid down in Article 107(1) of the Treaty;
 - (c) **'aid intensity'** means the gross aid amount expressed as a percentage of the eligible costs, before any deduction of tax or other charge. Where aid is awarded in a form other than a grant, the aid amount is the grant equivalent of the aid. Aid payable in several instalments is discounted to its value at the date of award. The interest rate to be used for this purpose is the discount rate ⁽²⁴⁾ applicable at the date of award. The aid intensity is calculated per beneficiary;

⁽²²⁾ Council Regulation (EU) No 2015/1588 of 13 July 2015 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to certain categories of horizontal State aid (OJ L 248, 24.9.2015, p. 1), as amended by Council Regulation (EU) 2018/1911 of 26 November 2018 (OJ L 311, 7.12.2018, p. 8).

⁽²³⁾ 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, including R&D&I aid assessed on the basis of Article 107(3)(b) of the Treaty, are laid down in a separate Communication from the Commission.

⁽²⁴⁾ See the Communication from the Commission on the revision of the method for setting the reference and discount rates (OJ C 14, 19.1.2008, p. 6).

- (d) **'aid scheme'** means any act on the basis of which, without further implementing measures being required, individual aid may be awarded to undertakings defined therein in a general and abstract manner and any act on the basis of which aid which is not linked to a specific project may be awarded to one or several undertakings;
- (e) **'applied research'** means industrial research, experimental development, or any combination of both;
- (f) **'arm's length'** means that the conditions of the transaction between the contracting parties do not differ from those which would be stipulated between independent enterprises and contain no element of collusion. Any transaction that results from an open, transparent and non-discriminatory procedure is considered as meeting the arm's length principle;
- (g) **'date of award of the aid'** means the date on which the legal right to receive the aid is conferred on the beneficiary under the applicable national legal regime;
- (h) **'effective collaboration'** means collaboration between at least two independent parties to exchange knowledge or technology, or to achieve a common objective based on the division of labour where the parties jointly define the scope of the collaborative project, contribute to its implementation and share its risks, as well as its results. One or several parties may bear the full costs of the project and thus relieve other parties of its financial risks. Contract research and provision of research services are not considered forms of collaboration;
- (i) **'evaluation plan'** means a document covering one or more aid schemes and containing at least the following minimum aspects: the objectives to be evaluated, the evaluation questions, the result indicators, the envisaged method to conduct the evaluation, the data collection requirements, the proposed timing of the evaluation including the date of submission of the interim and the final evaluation reports, the description of the independent body that will carry out the evaluation or the criteria that will be used for its selection and the modalities for making the evaluation publicly available;
- (j) **'exclusive development'** means the public procurement of research and development services of which all benefits accrue exclusively to the contracting authority or contracting entity, and which it may use in the conduct of its own affairs on condition that it fully remunerates them;
- (k) **'experimental development'** means acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services, including digital products, processes or services, in any area, technology, industry or sector (including, but not limited to, digital industries and technologies, such as for example super-computing, quantum technologies, block chain technologies, artificial intelligence, cyber security, big data and cloud or edge technologies). This may also encompass, for example, activities aiming at the conceptual definition, planning and documentation of new products, processes or services. Experimental development may comprise prototyping, demonstrating, piloting, testing and validation of new or improved products, processes or services in environments representative of real life operating conditions where the primary objective is to make further technical improvements on products, processes or services that are not substantially set. This may include the development of a commercially usable prototype or pilot which is necessarily the final commercial product and which is too expensive to produce for it to be used only for demonstration and validation purposes. Experimental development does not include routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements;
- (l) **'feasibility study'** means the evaluation and analysis of the potential of a project, which aims at supporting the process of decision making by objectively and rationally uncovering its strengths and weaknesses, opportunities and threats, as well as identifying the resources required to carry it through and ultimately its prospects for success;
- (m) **'full allocation'** means that the research organisation, research infrastructure or public purchaser enjoys the full economic benefit of intellectual property rights by retaining the right to make unrestricted use of them, particularly the right of ownership and the right to license. This may also be the case where the research organisation or research infrastructure (respectively, public purchaser) decides to conclude further contracts concerning those rights, including licensing them to a collaboration partner (respectively, undertakings);

- (n) **'fundamental research'** means experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any direct commercial application or use in view;
- (o) **'gross grant equivalent'** means the amount of the aid if it had been awarded in the form of a grant, before any deduction of tax or other charge;
- (p) **'highly qualified personnel'** means staff having a tertiary education degree and at least five years of relevant professional experience which may also include doctoral training;
- (q) **'individual aid'** means aid that is not awarded on the basis of an aid scheme and notifiable awards of aid on the basis of an aid scheme;
- (r) **'industrial research'** means the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or aimed at bringing about a significant improvement in existing products, processes or services, including digital products, processes or services, in any area, technology, industry or sector (including, but not limited to, digital industries and technologies, such as super-computing, quantum technologies, block chain technologies, artificial intelligence, cyber security, big data and cloud technologies). Industrial research comprises the creation of components parts of complex systems, and may include the construction of prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems as well as of pilot lines, when necessary for the industrial research and notably for generic technology validation;
- (s) **'innovation advisory services'** means consultancy, assistance, or training in the fields of knowledge transfer, acquisition, protection or exploitation of intangible assets or the use of standards and regulations embedding them, as well as consultancy, assistance or training on the introduction or use of innovative technologies and solutions (including digital technologies and solutions);
- (t) **'innovation clusters'** means structures or organised groups of independent parties (such as innovative start-ups, small, medium and large enterprises, as well as research and knowledge dissemination organisations, research infrastructures, testing and experimentation infrastructures, Digital Innovation Hubs, non-for-profit organisations and other related economic actors), designed to stimulate innovative activity and new ways of collaboration, such as by digital means, by sharing and/or promoting the sharing of facilities and exchange of knowledge and expertise, and by contributing effectively to knowledge transfer, networking, information dissemination and collaboration among the undertakings and other organisations in the cluster ⁽²⁵⁾;
- (u) **'innovation support services'** means the provision of office space, data banks, cloud and data storage services, libraries, market research, laboratories, quality labelling, testing, experimentation, and certification or other related services, including those services provided by research and knowledge dissemination organisations, research infrastructures, testing and experimentation infrastructures or innovation clusters, for the purpose of developing more effective or technologically advanced products, processes or services, including the implementation of innovative technologies and solutions (including digital technologies and solutions);
- (v) **'intangible assets'** means assets that do not have a physical or financial embodiment such as patents, licences, know-how or other intellectual property;
- (w) **'knowledge transfer'** means any process which has the aim of acquiring, collecting and sharing explicit and tacit knowledge, including skills and competence in both economic and non-economic activities such as research collaborations, consultancy, licensing, spin-off creation, publication and mobility of researchers and other personnel involved in those activities. Besides scientific and technological knowledge, it includes other kinds of knowledge such as knowledge on the use of standards and regulations embedding them and on conditions of real life operating environments and methods for organisational innovation, as well as management of knowledge related to identifying, acquiring, protecting, defending and exploiting intangible assets;

⁽²⁵⁾ Digital Innovation Hubs (including also European Digital Innovation Hubs supported under the centrally managed DEP programme), whose aim is to stimulate the broad uptake of digital technologies like, but not limited to artificial intelligence, High Performance Computing and cybersecurity by industry (in particular SMEs) and public sector organisations, may qualify as an innovation cluster by themselves in the meaning of this framework, depending on the specific objectives pursued or activities/ functionalities offered by the Digital Innovation Hub.

- (x) **'large enterprises'** means undertakings which do not fall within the definition of small and medium-sized enterprises;
- (y) **'net extra costs'** means the difference between the expected net present values of the aided project or activity and a viable counterfactual investment that the beneficiary would have carried out in the absence of aid;
- (z) **'organisational innovation'** ⁽²⁶⁾ means the implementation of a new organisational method at the level of the undertaking (at group level in the given industry sector in the EEA), workplace organisation or external relations, including for instance by making use of novel or innovative digital technologies. Excluded from this definition are changes that are based on organisational methods already in use in the undertaking, changes in management strategy, mergers and acquisitions, ceasing to use a process, simple capital replacement or extension, changes resulting purely from changes in factor prices, customisation, localisation, regular, seasonal and other cyclical changes and trading of new or significantly improved products;
- (aa) **'personnel costs'** means the cost of researchers, technicians and other supporting staff to the extent employed on the relevant project or activity;
- (bb) **'pre-commercial procurement'** means the public procurement of research and development services where the contracting authority or contracting entity does not reserve all the results and benefits of the contract exclusively for itself for use in the conduct of its own affairs, but shares them with the providers under market conditions. The contract, the object of which falls within one or several categories of research and development defined in this framework, must be of limited duration and may include the development of prototypes or limited volumes of first products or services in the form of a test series. The purchase of commercial volumes of products or services must not be an object of the same contract;
- (cc) **'process innovation'** ⁽²⁷⁾ means the implementation of a new or significantly improved production or delivery method (including significant changes in techniques, equipment or software) at the level of the undertaking (at group level in the given industry sector in the EEA), including for instance by making use of novel or innovative digital technologies or solutions. Excluded from this definition are minor changes or improvements, increases in production or service capabilities through the addition of manufacturing or logistical systems which are very similar to those already in use, ceasing to use a process, simple capital replacement or extension, changes resulting purely from changes in factor prices, customisation, localisation, regular, seasonal and other cyclical changes and trading of new or significantly improved products;
- (dd) **'R&D project'** means an operation that includes activities spanning over one or several categories of research and development defined in this framework, and that is intended to accomplish an indivisible task of a precise economic, scientific or technical nature with clearly pre-defined goals. A R&D project may consist of several work packages, activities or services, and includes clear objectives, activities to be carried out to achieve those objectives (including their expected costs), and concrete deliverables to identify the outcomes of those activities and compare them with the relevant objectives. When two or more R&D projects are not clearly separable from each other and in particular when they do not have independent probabilities of technological success, they are considered as a single project;
- (ee) **'repayable advance'** means a loan for a project which is paid in one or more instalments and the conditions for the reimbursement of which depend on the outcome of the project;
- (ff) **'research and knowledge dissemination organisation'** or 'research organisation' means an entity (such as universities or research institutes, technology transfer agencies, innovation intermediaries, research-oriented physical or virtual collaborative entities), irrespective of its legal status (organised under public or private law) or way of financing, whose primary goal is to independently conduct fundamental research, industrial research or experimental development or to widely disseminate the results of such activities by way of teaching, publication or knowledge transfer. Where such entity also pursues economic activities, the financing, the costs and the revenues of those economic activities must be accounted for separately. Undertakings that can exert a decisive influence upon such an entity, for example in the quality of shareholders or members, may not enjoy a preferential access to the results generated by it;

⁽²⁶⁾ Organisational innovation may also include social innovation providing that social innovation activities fall within the scope of the definition.

⁽²⁷⁾ Process innovation may also include social innovation providing that the social innovation activities fall within the scope of the definition.

- (gg) **'research infrastructure'** means facilities, resources and related services that are used by the scientific community to conduct research in their respective fields and covers scientific equipment or set of instruments, knowledge-based resources such as collections, archives or structured scientific information, enabling information and communication technology-based infrastructures such as grid, computing, software and communication, or any other entity of a unique nature essential to conduct research. Such infrastructures may be 'single-sited' or 'distributed' (an organised network of resources) ⁽²⁸⁾;
- (hh) **'secondment'** means temporary employment of staff by a beneficiary with the right for the staff to return to the previous employer;
- (ii) **'small and medium-sized enterprises'** or 'SMEs', 'small enterprises' and 'medium-sized enterprises' means undertakings fulfilling the criteria laid down in the Commission recommendation on the definition of micro, small and medium-sized enterprises ⁽²⁹⁾;
- (jj) **'start of works'** or 'start of the project' means either the start of R&D&I activities, or the first agreement between the beneficiary and the contractors to conduct the project, whichever comes first. Preparatory works such as obtaining permits and conducting feasibility studies are not considered as start of works;
- (kk) **'tangible assets'** means assets consisting of land, buildings and plants, machinery and equipment;
- (ll) **'testing and experimentation infrastructure'** ⁽³⁰⁾ means facilities, equipment, capabilities and resources, such as test beds, pilot lines, demonstrators, testing facilities or living labs, and related support services that are used predominantly by undertakings, especially SMEs, which seek support for testing and experimentation, in order to develop new or improved products, processes and services, and to test and upscale technologies, to advance through industrial research and experimental development. Access to publicly funded testing and experimentation infrastructures is open to several users and must be granted on a transparent and non-discriminatory basis and on market terms.

2. State aid within the meaning of Article 107(1) of the Treaty

17. Generally, any measure meeting the criteria set out in Article 107(1) of the Treaty constitutes State aid. Whilst a separate Commission Notice ⁽³¹⁾ on the notion of State aid clarifies how the Commission understands the notion of State aid in general, this Section considers situations typically arising in the field of R&D&I activities without prejudice to the interpretation of the Court of Justice of the European Union.

2.1. Research and knowledge dissemination organisations and research infrastructures as recipients of State aid

18. Research and knowledge dissemination organisations ('research organisations') and research infrastructures are recipients of State aid if their public funding fulfils all conditions of Article 107(1) of the Treaty. Pursuant to the Commission Notice on the notion of State aid, and in accordance with the case-law of the Court of Justice, the beneficiary must qualify as an undertaking, but that qualification does not depend upon its legal status, that is to say whether it is organised under public or private law, or its economic nature, that is to say whether it seeks to make profits or not. Rather, what is decisive for that qualification as an undertaking is whether it carries out an economic activity consisting of offering products or services on a given market ⁽³²⁾.

⁽²⁸⁾ See Article 2(a) Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC) (OJ L 206, 8.8.2009, p. 1).

⁽²⁹⁾ Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (OJ L 124, 20.5.2003, p. 36).

⁽³⁰⁾ Testing and experimentation infrastructures may also be known by the term technology infrastructures, see Commission Staff Working Document, 'Technology Infrastructures', SWD(2019) 158 final, 8.4.2019.

⁽³¹⁾ European Commission, '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).

⁽³²⁾ See Judgment of the Court of Justice of 16 June 1987, Commission v. Italy, C-118/85, ECLI:EU:C:1987:283, paragraph 7; Judgment of the Court of Justice of 18 June 1998, Commission v. Italy, C-35/96, ECLI:EU:C:1998:303, paragraph 36; Judgment of the Court of Justice of 19 February 2002, Wouters, C-309/99, ECLI:EU:C:2002:98, paragraph 46.

2.1.1. *Public funding of non-economic activities*

19. Where the same entity carries out activities of both economic and non-economic nature, the public funding of the non-economic activities will not fall under Article 107(1) of the Treaty if the two kinds of activities and their costs, funding and revenues can be clearly separated so that cross-subsidisation of the economic activity is effectively avoided. Evidence of due allocation of costs, funding and revenues can consist of annual financial statements of the relevant entity.

20. The Commission considers that the following activities are generally of a non-economic character:
 - (a) primary activities of research organisations and research infrastructures, in particular:
 - (i) education for more and better skilled human resources. In line with case-law ⁽³³⁾ and decisional practice of the Commission ⁽³⁴⁾, and as explained in the Notice on the notion of State aid and the SGEI Communication ⁽³⁵⁾, public education organised within the national educational system, predominantly or entirely funded by the State and supervised by the State is considered as a non-economic activity ⁽³⁶⁾;
 - (ii) independent R&D for more knowledge and better understanding, including collaborative R&D where the research organisation or research infrastructure engages in effective collaboration ⁽³⁷⁾;
 - (iii) wide dissemination of research results on a non-exclusive and non-discriminatory basis, for example through teaching, open-access databases, open publications or open software.
 - (b) knowledge transfer activities, where they are conducted either by the research organisation or research infrastructure (including their departments or subsidiaries) or jointly with, or on behalf of other such entities, and where all profits from those activities are reinvested in the primary activities of the research organisation or research infrastructure. The non-economic nature of those activities is not prejudiced by contracting the provision of corresponding services to third parties by way of open tenders.

21. Where a research organisation or research infrastructure is used for both economic and non-economic activities, public funding falls under State aid rules only insofar as it covers costs linked to the economic activities ⁽³⁸⁾. Where the research organisation or research infrastructure is used almost exclusively for a non-economic activity, its funding may fall outside state aid rules in its entirety ⁽³⁹⁾, provided that the economic use remains purely ancillary, that is to say corresponds to an activity which is directly related to and necessary for the operation of the research organisation or research infrastructure or intrinsically linked to its main non-economic use, and which is limited in scope. For the purposes of this framework, the Commission will consider this to be the case where the economic activities consume exactly the same inputs (such as material, equipment, labour and fixed capital) as the non-economic activities and the capacity allocated each year to such economic activities does not exceed 20 % of the relevant entity's overall annual capacity.

⁽³³⁾ See Judgment of the Court of Justice of 27 September 1988, *Humble and Edel*, C-263/86, ECLI:EU:C:1988:451, paragraphs 9-10, 15-18; Judgment of the Court of Justice of 7 December 1993, *Wirth*, C-109/92, ECLI:EU:C:1993:916, paragraph 15.

⁽³⁴⁾ See for instance cases NN54/2006, *Prerov logistics College*, and N 343/2008, *Individual aid to the College of Nyíregyháza for the development of the Partium Knowledge Centre*.

⁽³⁵⁾ See Communication from the Commission on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest (OJ C 8, 11.1.2012, p. 4), paragraphs 26-29.

⁽³⁶⁾ Workforce training, in the sense of State aid rules for training aid, does not qualify as a non-economic primary activity of research organisations.

⁽³⁷⁾ Provision of R&D services and R&D carried out on behalf of undertakings are not considered as independent R&D.

⁽³⁸⁾ Where a research organisation or research infrastructure is both publicly and privately funded, the Commission will consider this to be the case where the public funding allocated to the relevant entity for a specific accounting period exceeds the costs of non-economic activities incurred in that period.

⁽³⁹⁾ Since the research community, when conducting ancillary economic activities, derives improved and enhanced expertise and knowledge that can be used to perform the primary non-economic activities of the research organisation or the research infrastructure to the benefit of the society at large.

2.1.2. *Public funding of economic activities of research organisations and research infrastructures*

22. Without prejudice to point 21, where research organisations or research infrastructures are used to perform economic activities, such as renting out equipment or laboratories to undertakings, supplying services to undertakings or performing contract research, public funding of those economic activities will generally be considered State aid.
23. However, the Commission will not consider the research organisation or research infrastructure to be a beneficiary of State aid if it acts as a mere intermediary for passing on to the final recipients the totality of the public funding and any advantage acquired through such funding. This is generally the case where:
- (a) both the public funding and any advantage acquired through such funding are quantifiable and demonstrable, and there is an appropriate mechanism which ensures that they are fully passed on to the final recipients, for example through reduced prices, and
 - (b) no further advantage is awarded to the intermediary because it is either selected through an open tender procedure or the public funding is available to all entities which satisfy the necessary objective conditions, so that customers as final recipients are entitled to acquire equivalent services from any relevant intermediary.
24. Where the conditions in point 23 are fulfilled, State aid rules apply at the level of the final recipients.

2.2. Indirect State aid to undertakings through public funded research and knowledge dissemination organisations and research infrastructures

25. The question of whether and under which conditions undertakings obtain an advantage within the meaning of Article 107(1) of the Treaty in cases of contract research or research services provided by a research organisation or research infrastructure, as well as in cases of collaboration with a research organisation or research infrastructure must be answered in accordance with general State aid principles. To this purpose, as explained in the Notice on the notion of State aid, it may in particular be necessary to assess whether the behaviour of the research organisation or research infrastructure can be imputed to the State ⁽⁴⁰⁾.

2.2.1. *Research on behalf of undertakings (contract research or research services)*

26. Where a research organisation or research infrastructure is used to perform contract research or provide a research service to an undertaking, which typically specifies the terms and conditions of the contract, owns the results of the research activities and carries the risk of failure, no State aid will usually be passed to the undertaking if the research organisation or research infrastructure receive payment of an adequate remuneration for its services, particularly where one of the following conditions is fulfilled:
- (a) the research organisation or research infrastructure provides its research service or contract research at market price ⁽⁴¹⁾, or
 - (b) where there is no market price, the research organisation or research infrastructure provides its research service or contract research at a price which:
 - reflects the full costs of the service and generally includes a margin established by reference to those commonly applied by undertakings active in the sector of the service concerned, or

⁽⁴⁰⁾ See Judgment of the Court of Justice of 16 May 2002, *France v. Commission*, C-482/99, ECLI:EU:C:2002:294, paragraph 24.

⁽⁴¹⁾ Where the research organisation or research infrastructure provides a specific research service or carries out contract research for the first time on behalf of a given undertaking, on a trial basis and during a clearly limited period of time, the Commission will normally consider the price charged as a market price where that research service or contract research is unique and it can be shown that there is no market for it.

- is the result of arm's length negotiations where the research organisation or research infrastructure, in its capacity as service provider, negotiates in order to obtain the maximum economic benefit at the moment when the contract is concluded and covers at least its marginal costs.

27. Where the ownership of, or access rights to intellectual property rights (IPR) remain with the research organisation or research infrastructure, their market value may be deducted from the price payable for the services concerned.

2.2.2. *Collaboration with undertakings*

28. A project is considered to be carried out through effective collaboration where at least two independent parties pursue a common objective based on the division of labour and jointly define its scope, participate in its design, contribute to its implementation and share its financial, technological, scientific and other risks, as well as its results. One or several parties may bear the full costs of the project and thus relieve other parties of its financial risks. The terms and conditions of a collaboration project, in particular as regards contributions to its costs, the sharing of risks and results, the dissemination of results, access to and rules for allocation of IPR, must be concluded prior to the start of the project ⁽⁴²⁾. Contract research and provision of research services are not considered to be forms of collaboration.
29. Where collaboration projects are carried out jointly by undertakings and research organisations or research infrastructures, the Commission considers that no indirect State aid is awarded to the participating undertakings through those entities due to favourable conditions of the collaboration ⁽⁴³⁾ if one of the following conditions is fulfilled:
 - (a) the participating undertakings bear the full cost of the project, or
 - (b) the results of the collaboration which do not give rise to IPR may be widely disseminated and any IPR resulting from the activities of research organisations or research infrastructures are fully allocated to those entities, or
 - (c) any IPR resulting from the project, as well as related access rights are allocated to the different collaboration partners in a manner which adequately reflects their work packages, contributions and respective interests, or
 - (d) the research organisations or research infrastructures receive compensation equivalent to the market price for the IPR which result from their activities and are assigned to the participating undertakings, or to which participating undertakings are allocated access rights. The absolute amount of the value of any contribution, both financial and non-financial, of the participating undertakings to the costs of the research organisations or research infrastructures' activities that resulted in the IPR concerned, may be deducted from that compensation.
30. For the purpose of point 29(d), the Commission will consider that the compensation received is equivalent to the market price if it enables the research organisations or research infrastructures concerned to enjoy the full economic benefit of those rights, where one of the following conditions is fulfilled:
 - (a) the amount of the compensation has been established by means of an open, transparent and non-discriminatory competitive sale procedure, or
 - (b) an independent expert valuation confirms that the amount of the compensation is at least equal to the market price, or
 - (c) the research organisation or research infrastructure, as seller, can demonstrate that it effectively negotiated the compensation, at arm's length conditions, in order to obtain the maximum economic benefit at the moment when the contract is concluded, while considering its statutory objectives, or

⁽⁴²⁾ This does not include definite agreements on the market value of resulting IPR and the value of contributions to the project.

⁽⁴³⁾ Including in the form of material transfer agreements, where a research organisation or a research infrastructure transfers materials to an undertaking for the recipient's own R&D activities.

- (d) in cases where the collaboration agreement provides the collaborating undertaking with a right of first refusal as regards IPR generated by the collaborating research organisations or research infrastructures, where those entities exercise a reciprocal right to solicit more economically advantageous offers from third parties so that the collaborating undertaking has to match its offer accordingly.

31. If none of the conditions in point 29 are fulfilled, the full value of the contribution of the research organisations or research infrastructures to the project will be considered as an advantage for the collaborating undertakings, to which State aid rules apply.

2.3. Public procurement of research and development services

32. Public purchasers may procure research and development services from undertakings, through both exclusive development and pre-commercial procurement procedures ⁽⁴⁴⁾.

33. As long as an open tender procedure for the public procurement is carried out in accordance with the applicable directives ⁽⁴⁵⁾, the Commission will generally consider that no State aid within the meaning of Article 107(1) of the Treaty is awarded to the undertakings delivering the relevant services ⁽⁴⁶⁾.

34. In all other cases, including pre-commercial procurement, the Commission will consider that no State aid is awarded to undertakings where the price paid for the relevant services fully reflects the market value of the benefits received by the public purchaser and the risks taken by the participating providers, in particular where all of the following conditions are fulfilled:

- (a) the selection procedure is open, transparent and non-discriminatory, and is based on objective selection and award criteria specified in advance of the bidding procedure;
- (b) the envisaged contractual arrangements describing all rights and obligations of the parties, including with regard to IPR, are made available to all interested bidders in advance of the bidding procedure;
- (c) the procurement does not give any of the participant providers any preferential treatment in the supply of commercial volumes of the final products or services to a public purchaser in the Member State concerned ⁽⁴⁷⁾, and
- (d) one of the following conditions is fulfilled:
 - all results which do not give rise to IPR may be widely disseminated, for example through publication, teaching or contribution to standardisation bodies in a way that allows other undertakings to reproduce them, and any IPR are fully allocated to the public purchaser, or
 - any service provider to which results giving rise to IPR are allocated is required to grant the public purchaser unlimited access to those results free of charge, and to grant access to third parties, for example by way of non-exclusive licenses, under market conditions.

⁽⁴⁴⁾ See the Communication and associated staff working document – Communication from the Commission, 'Pre-commercial Procurement: Driving innovation to ensure sustainable high quality public services in Europe', COM(2007) 799 final, 14.12.2007.

⁽⁴⁵⁾ See Article 27 of Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC (OJ L 94, 28.3.2014, p. 65) and Article 45 of Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (OJ L 94, 28.3.2014, p. 243). Likewise, in the case of a restricted procedure within the meaning of respectively Articles 28 of Directive 2014/24/EU and Article 46 of Directive 2014/25/EU, the Commission will also consider that no State aid is awarded to undertakings, unless interested providers are prevented from tendering without valid reasons.

⁽⁴⁶⁾ This will also be the case where public purchasers procure innovative solutions resulting from a preceding R&D procurement, or non-R&D products and services that are to be delivered to a performance level requiring a product, process or organisational innovation.

⁽⁴⁷⁾ Without prejudice to procedures that cover both the development and the subsequent purchase of unique or specialised products or services.

35. Where the conditions set out in point 34 are not fulfilled, Member States may rely on an individual assessment of the terms of the contract between the public purchaser and the undertaking, without prejudice to the general obligation to notify R&D&I aid pursuant to Article 108(3) of the Treaty.

3. Compatibility assessment of R&D&I aid

36. On the basis of Article 107(3)(c) of the Treaty, 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.

37. In this section, the Commission clarifies how it will apply the compatibility assessment principles and, where applicable, lays down specific conditions for aid schemes and additional conditions for individual aid which is subject to the obligation of notification ⁽⁴⁸⁾.

38. In order to assess whether State aid for R&D&I can be considered compatible with the internal market, the Commission will determine whether the aid measure facilitates the development of a certain economic activity and whether it adversely affects trading conditions to an extent contrary to the common interest.

39. In order to make the assessment referred to in point 39, the Commission will consider the following aspects:

(a) First condition: R&D&I aid facilitates the development of an economic activity

- (i) identify the economic activity (section 3.1.1)
- (ii) *incentive effect*: evaluating whether the aid changes the behaviour of the undertaking or undertakings concerned in such a way that such undertaking or undertakings engage in additional activity, which would not be carried out without the aid or which would be carried out in a restricted or different manner or location (section 3.1.2).
- (iii) the aid does not contravene relevant provisions and principles of EU law (section 3.1.3)

(b) Second condition: R&D&I aid does not unduly affect trading conditions to an extent contrary to the common interest

- (i) *need for State intervention*: the aid measure must bring about a material improvement that the market cannot deliver by itself, for example by remedying a market failure or addressing an equity or cohesion concern where applicable (section 3.2.1).
- (ii) *appropriateness of the aid measure*: the proposed aid measure must be an appropriate policy instrument to facilitate the development of the economic activity (section 3.2.2).
- (iii) *proportionality of the aid (aid to the minimum)*: the amount and intensity of the aid must be limited to the minimum needed to induce the additional investment or activity by the undertaking(s) concerned (section 3.2.3).
- (iv) *transparency of aid*: Member States, the Commission, economic operators, and the public, must have easy access to all relevant acts and to pertinent information about the aid awarded thereunder (section 3.2.4).
- (v) negative effects that R&D&I aid can have on competition and trade between Member States must be minimized or avoided: (section 3.2.5).
- (vi) weighing up the positive and negative effects of the aid (section 3.2.6).

⁽⁴⁸⁾ The compatibility conditions laid down in a block exemption Regulation remain fully applicable to all other cases of individual aid, including where such aid is awarded on the basis of an aid scheme which is subject to the notification obligation.

3.1. **First condition: R&D&I aid facilitates the development of an economic activity**

3.1.1. *Identifying the supported economic activity*

40. The Commission will assess, based on the information provided by the Member State, which economic activity will be supported by the notified measure.

3.1.2. *Incentive effect*

3.1.2.1. General conditions

41. R&D&I aid can be found compatible with the internal market if it has an incentive effect. The Commission considers that aid without incentive effect does not facilitate the development of an economic activity.
42. An incentive effect occurs where the aid changes the behaviour of an undertaking in such a way that it engages in additional activities, which it would not carry out or it would carry out in a restricted or different manner without the aid. The aid must however not subsidise the costs of an activity that an undertaking would anyhow incur and must not compensate for the normal business risk of an economic activity ⁽⁴⁹⁾.
43. The Commission considers that aid does not present an incentive for the beneficiary wherever work on the relevant R&D&I activity ⁽⁵⁰⁾ has already started prior to the aid application by the beneficiary to the national authorities ⁽⁵¹⁾. Where start of works takes place before the aid application is submitted by the beneficiary to the national authorities, the project will not be eligible for aid.
44. The aid application must include at least the applicant's name and size, a description of the project, including its location and start and end dates, the amount of public support needed to carry it out, and a list of eligible costs.
45. To the extent they constitute State aid, the Commission may consider that fiscal measures have an incentive effect, by stimulating higher R&D&I spending by undertakings, on the basis of evaluation studies ⁽⁵²⁾ provided by Member States.

3.1.2.2. Additional conditions for individual aid

46. For notifiable individual aid, Member States must demonstrate to the Commission that the aid has an incentive effect and therefore need to provide clear evidence that the aid has a positive impact on the decision of the undertaking to pursue R&D&I activities which would otherwise not have been pursued. In order to enable the Commission to carry out a comprehensive assessment of the aid measure in question, the Member State concerned must provide not only information concerning the aided project but also, to the extent possible, a comprehensive description of what would have happened or could reasonably have been expected to happen without aid, that is to say the counterfactual scenario. The counterfactual scenario may consist in the absence of an alternative project, when supported by evidence, or in a clearly defined and sufficiently predictable alternative project considered by the beneficiary in its internal decision making, and may relate to an alternative project that is wholly or partly carried out outside the Union.

⁽⁴⁹⁾ See Judgment of the Court of Justice, *HGA and Others v. Commission*, Joined Cases C-630/11 P to C-633/11 P, ECLI:EU:C:2013:387.

⁽⁵⁰⁾ If the aid application is for an R&D project, this does not exclude that the potential beneficiary would have already carried out feasibility studies, which are not covered by the request for aid.

⁽⁵¹⁾ In the case of aid for projects or activities that are carried out in successive phases which may be subject to separate aid awarding procedures, this means that start of works must not take place before the first aid application. In the case of aid awarded under an automatic fiscal aid scheme, such scheme must have been adopted and entered into force before any work on the aided project or activity starts.

⁽⁵²⁾ Even though this may not be possible *ex ante* for a newly introduced measure, Member States will be expected to provide evaluation studies on the incentive effect of their own fiscal aid schemes (so that planned or intended methodologies for *ex post* evaluations should normally be part of the design of such measures). In the absence of any evaluation studies, the incentive effect of fiscal aid schemes may be presumed only for incremental measures.

47. In its analysis, the Commission will take into consideration the following elements:
- (a) **specification of intended change:** the change in behaviour which is expected to result from State aid, that is to say whether a new project is triggered, or the size, scope or speed of a project is enhanced, has to be well specified;
 - (b) **counterfactual analysis:** the change of behaviour has to be identified by comparing what the expected outcome and level of intended activity would be with and without aid. The difference between the two scenarios shows the impact of the aid measure and its incentive effect;
 - (c) **level of profitability:** where a project or investment would not, in itself, be profitable to carry out for an undertaking, but would generate important benefits for society, it is more likely that the aid has an incentive effect;
 - (d) **amount of investment and timeframe of cash flows:** a high start-up investment, a low level of appropriable cash flows and a significant fraction of the cash flow arising in the very far future or in a very uncertain manner, will be considered positive elements in assessing the incentive effect;
 - (e) **level of risk involved:** the assessment of risk will in particular take into account the irreversibility of the investment, the probability of commercial failure, the risk that the project will be less productive than expected, the risk that the project undermines other activities of the aid beneficiary and the risk that the project costs undermine its financial viability.
48. Member States are in particular invited to rely on board documents, risk assessments, financial reports, internal business plans, expert opinions and other studies related to the project under assessment. Documents containing information on demand forecasts, cost forecasts, financial forecasts, documents that are submitted to an investment committee and that describe in detail various investment scenarios, or documents provided to financial institutions could help Member States demonstrate the incentive effect.
49. In order to ensure that the incentive effect is established on an objective basis, the Commission may in its assessment compare company-specific data with data concerning the industry in which the aid beneficiary is active. In particular, Member States should where possible provide industry-specific data demonstrating that the beneficiary's counterfactual scenario, its required level of profitability and its expected cash-flows are reasonable.
50. In that context, the level of profitability can be evaluated by reference to methodologies which are demonstrably used by the beneficiary undertaking or are standard practice in the particular industry concerned, and which may include methods for evaluating the net present value of the project (NPV) ⁽⁵³⁾, the internal rate of return (IRR) ⁽⁵⁴⁾ or the average return on capital employed (ROCE).
51. Furthermore, in the case of investment support for cross-border R&D activities, research infrastructures, testing and experimentation infrastructures as well as innovation clusters, the Commission will consider investments which facilitate cross-border cooperation or are financed by more than one Member State, to be an element which may strengthen the incentive effect of the aid. In such cases there can be a strong presumption that the aid incentivises R&D&I activities bigger in size or scope, or it facilitates their speedier implementation, or the total project costs become higher (see point 142 below) because of the increased activities, as compared to a project aimed at meeting only national needs.
52. Therefore, aid will not be considered compatible with the internal market in cases where it appears that the same activities could and would be pursued even without the aid.

⁽⁵³⁾ The net present value of a project is the difference between the positive and negative cash flows over the lifetime of the investment, discounted to their current value (using the weighted average cost of capital).

⁽⁵⁴⁾ The IRR is not based on accounting earnings in a given year, but takes into account the stream of future cash flows that the investor expects to receive over the entire lifetime of the investment. It is defined as the discount rate for which the NPV of a stream of cash flows equals zero.

3.1.3. *No breach of relevant Union law*

53. If a State aid measure, the conditions attached to it, including its financing method when the financing method forms an integral part of the State aid measure, or the activity it finances entails a violation of relevant Union law, the aid cannot be declared compatible with the internal market ⁽⁵⁵⁾.
54. In assessing the compatibility of any individual aid with the internal market, the Commission will notably take into account any infringement proceedings relative to Articles 101 or 102 of the Treaty which may concern the beneficiary of the aid and which may be relevant for its assessment under Article 107(3) of the Treaty ⁽⁵⁶⁾.

3.2. **Second condition: R&D&I aid does not unduly affect trading conditions to an extent contrary to the common interest**

55. Pursuant to Article 107(3)(c) of the Treaty aid to facilitate the development of certain economic activities or of certain economic areas can be declared compatible, but only 'where such aid does not adversely affect trading conditions to an extent contrary to the common interest.'
56. The assessment of the negative effects on the internal market involves complex economic and social assessments. This Section sets out the method of exercise of the Commission's discretion in carrying out the assessment under the second condition of the compatibility assessment referred to in point 39(b).
57. By its very nature, any aid measure generates distortions of competition and has an effect on trade between Member States. However, in order to establish if the distortive effects of the aid are limited to the minimum, the Commission will verify whether the aid is necessary, appropriate, proportionate and transparent.
58. The Commission will then assess the distortive effect of the R&D&I aid in question on competition and trading conditions. More specifically, aid in the field of R&D&I can cause specific product market distortions and location effects. The Commission will then balance the positive effects of the aid with its negative effects on competition and trade. Where the positive effects outweigh the negative effects, the Commission will declare the aid compatible.

3.2.1. *Need for State intervention*

59. A State aid measure must be targeted towards a situation where aid can bring about a material development that the market cannot deliver by itself, for example by remedying a market failure affecting the R&D&I activity or investment in question.

3.2.1.1. *General conditions*

60. State aid may be necessary to increase R&D&I in a situation where the market, on its own, fails to deliver an efficient outcome. In order to assess whether State aid is effective in reaching the intended outcome, it is first necessary to identify the problem to be addressed. State aid should be targeted towards situations where it can bring about a material development that the market cannot deliver on its own. Member States should explain how the aid measure can effectively mitigate the identified market failures, hindering the implementation of the R&D&I activity or investment in question by the market on its own.

⁽⁵⁵⁾ See for instance Judgment of the Court of Justice of 19 September 2000, *Germany v. Commission*, C-156/98, ECLI:EU:C:2000:467, paragraph 78; Judgment of the Court of Justice of 22 December 2008, *Société . IRégie Networks v. Rhône-Alpes Bourgogne*, C-333/07, ECLI:EU:C:2008:764, paragraphs 94-116; Judgment of the Court of Justice of 22 September 2020, *Austria v Commission*, C-594/18 P, ECLI:EU:C:2020:742, paragraph 44; Judgment of the Court of Justice of 14 October 2010, *Nuova Agricast v. Commission*, C-67/09 P, ECLI:EU:C:2010:607, paragraph 51.

⁽⁵⁶⁾ See Judgment of the Court of Justice of 15 June 1993, *Matra v. Commission*, C-225/91, ECLI:EU:C:1993:239, paragraph 42.

61. R&D&I takes place through a series of activities, which are usually upstream to a number of product markets and exploit available capabilities to develop new or improved products, services and processes in those product markets or completely new ones, thereby fostering growth in the economy, contributing to territorial and social cohesion or furthering the general consumer interest. However, given the available R&D&I capabilities, market failures may be an obstacle to reaching the optimal output and may lead to an inefficient outcome for the following reasons:

- (a) **positive externalities or knowledge spill-overs:** R&D&I often generate benefits for society in the form of positive spill-over effects, for example knowledge spill-overs or enhanced opportunities for other economic actors to develop complementary products and services. However, if left to the market, a number of projects might have an unattractive rate of return from a private perspective, although they would be beneficial for society, because profit seeking undertakings cannot sufficiently appropriate the benefits of their actions when deciding about the amount of R&D&I they should carry out. State aid may therefore contribute to the implementation of projects which result in an overall societal or economic benefit and which would otherwise not be pursued.

However, neither are all benefits of R&D&I activities externalities, nor does the presence of externalities alone automatically mean that State aid is compatible with the internal market. In general, consumers are willing to pay for the direct benefit of new products and services while firms can appropriate the benefits from their investment through other existing instruments, such as IPR. In some cases, however, those means are imperfect and leave a residual market failure that may be corrected by State aid. For instance, as is often argued for fundamental research, it may be difficult to exclude others from gaining access to the results of some activities, which might therefore have a public good character. On the other hand, more specific knowledge related to production can often be well protected, for example through patents, allowing the inventor to reap a higher return on the invention;

- (b) **imperfect and asymmetric information:** R&D&I activities are characterised by a high degree of uncertainty. Under certain circumstances, due to imperfect and asymmetric information, private investors may be reluctant to finance valuable projects and highly-qualified personnel may be unaware of recruitment possibilities in innovative undertakings. As a result, the allocation of human and financial resources may not be adequate and projects which may be valuable for society or the economy may not be carried out.

In certain cases, imperfect and asymmetric information may also hamper access to finance. However, imperfect information and the presence of risk do not automatically justify the need for State aid. Projects with lower private returns on investments not being financed can very well be a sign of market efficiency. Moreover, risk is part of every business activity and is not a market failure in itself. However, in a context of asymmetric information, risk may exacerbate financing problems;

- (c) **coordination and network failures:** the ability of undertakings to coordinate with each other or to interact in order to deliver R&D&I may be impaired for various reasons, including difficulties in coordinating among a large number of collaboration partners where some of them have diverging interests, problems in designing contracts, and difficulties in coordinating collaboration due for example to sensitive information being shared.

3.2.1.2. Additional conditions for individual aid

62. Whilst certain market failures may hamper R&D&I generally, not all undertakings and sectors in the economy are affected by them to the same extent. Consequently, for notifiable individual aid, Member States should provide adequate information about whether the aid addresses a general market failure regarding R&D&I, or a specific market failure to R&D&I affecting, for example, a particular sector or line of business.

63. The Commission will take into consideration the following elements:
- (a) **knowledge spill-overs:** level of knowledge dissemination envisaged; specificity of the knowledge created; availability of IPR protection; degree of complementarity with other products and services;
 - (b) **imperfect and asymmetric information:** level of risk and complexity of R&D&I activities; need for external finance; characteristics of the aid beneficiary regarding access to external finance;
 - (c) **coordination failures:** number of collaborating undertakings; intensity of collaboration; diverging interests among collaborating partners; problems in designing contracts; problems to coordinate collaboration.
64. In its analysis of an alleged market failure hindering the R&D&I activities to be triggered by the aid measure, the Commission will in particular take into account any available sectoral comparisons and other studies, which should be provided by the Member State concerned.
65. When notifying investment or operating aid for clusters, Member States must provide information on the planned or expected specialisation of the innovation cluster, existing regional potential and presence of clusters in the Union with similar purposes. Where relevant, Member States should also explain how the cluster can have a positive effect on the technological advancement and digital transformation of the Union economy. Where the supported innovation cluster is a Digital Innovation Hub, the Commission may presume such positive effect. In its analysis, the Commission will analyse whether the collaborations which would be stimulated or incentivised by the innovation cluster's activities might aim, amongst others, to shorten the time needed from the creation of new knowledge to transposing it into innovative applications. These may include new products, services or processes or solutions, also based on digital technologies, or to help transforming the Union economy in accordance with the Green Deal and the Digital Europe Communication, among others.
66. When notifying investment aid for a testing and experimentation infrastructure, Member States must provide detailed and precise information on its planned or expected specialisation, its state of the art character and the role the testing and experimentation infrastructure could play in facilitating at regional, national or Union level the digital and green transition of the Union economy. Member States must also provide information on whether there are similar testing and experimentation infrastructures, whether publicly funded or not, in the Union. In addition, Member States should provide information on the profile of the users, such as size, sector and other relevant information. The Commission will consider in its assessment the extent to which the capacity of the infrastructure would be allocated to services provided to SMEs and hence provide opportunities for SMEs to improve the efficiency of own production processes and their ability to innovate products and business models, in particular facilitated by access to digital technologies.
67. With respect to State aid which is awarded for projects or activities that are also financed by the Union, either directly or indirectly (that is to say by the Commission, by its executive agencies, by joint undertakings established on the basis of Articles 185 and 187 of the Treaty, or by any other implementing bodies where the Union funding is not directly or indirectly under the control of Member States), the Commission will consider that the need for State intervention has been established.
68. On the other hand, where State aid is awarded for projects or activities which, with respect to their technological content, level of risk and size, are similar to those already delivered within the Union at market conditions, the Commission will in principle presume that no market failure is present and will require further evidence of and justification for the need for State intervention. In particular, in the case of testing and experimentation infrastructures and innovation clusters, Member States must demonstrate that the public support will not lead to duplication in services already offered by existing structures operating within the Union, which could lead to idle capacities and put into question the economic viability of the supported investment.

3.2.2. *Appropriateness of the aid measure*

69. The proposed aid measure must be an appropriate policy instrument to achieve the intended objective of the aid, that is to say there must not be a better placed and less distortive policy and aid instrument capable of achieving the same results.

3.2.2.1. *Appropriateness among alternative policy instruments*

70. State aid is not the only policy instrument available to Member States to promote R&D&I activities. It is important to keep in mind that there may be other, better placed instruments such as demand-side measures involving regulation, public procurement or standardisation, as well as an increase in funding of public research and education and general fiscal measures. The appropriateness of a policy instrument in a given situation is normally linked to the nature of the problem that is being addressed. For instance, reducing market barriers may be more appropriate than State aid to deal with a new entrant's difficulty to appropriate R&D&I results. Increased investment in education may be more appropriate to deal with a lack of qualified personnel than awarding State aid.
71. Aid for R&D&I can be authorised as an exception to the general prohibition of State aid, where it is necessary to enable the R&D&I in question. An important element in that respect is therefore whether and to what extent aid for R&D&I can be considered an appropriate instrument to increase R&D&I activities, given that other less distortive instruments may achieve the same results.
72. In its compatibility analysis, the Commission takes particularly into account the impact assessment of the proposed measure carried out by the Member State concerned. Measures, for which Member States have considered other policy options and for which the advantages of using a selective instrument such as State aid are established and submitted to the Commission, are considered to constitute an appropriate instrument.
73. With respect to State aid which is awarded for projects or activities that are also financed by the Union, either directly or indirectly, that is to say by the Commission, by its executive agencies, by joint undertakings established on the basis of Articles 185 and 187 of the Treaty, or by any other implementing bodies where the Union funding is not directly or indirectly under the control of Member States, the Commission will consider that the appropriateness of the aid measure has been established. Member States should demonstrate that the State aid for the assessed project or activity would create synergies with any funding or co-financing from Union programmes.

3.2.2.2. *Appropriateness among different aid instruments*

74. State aid for R&D&I can be awarded in various forms. Member States should therefore ensure that the aid is awarded in the form that is likely to generate the least distortions of competition and trade. In this respect, where the aid is awarded in forms that provide a direct pecuniary advantage, such as direct grants, exemptions or reductions in taxes or other compulsory charges, or the supply of land, products or services at favourable prices, the Member State concerned must include an analysis of other options and explain why or how other potentially less distortive forms of aid such as repayable advances or forms of aid that are based on debt or equity instruments, such as State guarantees, the purchase of a share-holding or an alternative provision of debt or capital on favourable terms, are less appropriate.
75. The choice of the aid instrument should be made on the basis of the market failure it seeks to address. For instance, where the underlying market failure is a problem of access to external debt finance due to asymmetric information, Member States should normally resort to aid in the form of liquidity support, such as a loan or guarantee, rather than a grant. Where it is also necessary to provide the firm with a certain degree of risk sharing, a repayable advance should normally be the aid instrument of choice. In particular, where aid is awarded in a form other than liquidity support or a repayable advance for activities that are close to the market, Member States must justify the appropriateness of the chosen instrument for tackling the specific market failure in question. For aid schemes implementing the objectives and priorities of Operational Programmes, the financing instrument chosen in those programmes is in principle presumed to be an appropriate instrument.

3.2.3. *Proportionality of the aid*

3.2.3.1. General conditions

76. For any R&D&I aid to be considered proportional, its amount must be limited to the minimum needed for carrying out the aided activity.

3.2.3.1.1. Maximum aid intensities

77. In order to ensure that the level of aid is proportionate to the market failures which it is intended to address hindering the implementation of the R&D&I activities to be triggered by the aid measure in question, the aid must be determined in relation to a predefined set of eligible costs and limited to a certain proportion of those eligible costs ('aid intensity'). The aid intensity must be established for each beneficiary of aid, including in a collaboration project.
78. To ensure predictability and a level playing field, the Commission applies maximum aid intensities for R&D&I aid, which are established on the basis of three criteria: (i) the closeness of the aid to the market, as a proxy for its expected negative effects and the need for it, taking into account the potential higher revenues that can be expected from the aided activities; (ii) the size of the beneficiary as a proxy for the more acute difficulties generally faced by smaller undertakings to finance a risky project; and (iii) the acuteness of any market failure, such as the expected externalities in terms of dissemination of knowledge. Therefore, aid intensities should generally be lower for activities linked to development and innovation than for research activities. These considerations apply similarly to the aid intensity for aid for testing and experimentation infrastructures, which, by definition, would provide predominantly services to undertakings for R&D activities closer to the market.
79. The eligible costs for each aid measure covered by this framework are set out in Annex I. When an R&D project encompasses different tasks, each eligible task must fall under the categories of fundamental research, industrial research or experimental development ⁽⁵⁷⁾. When classifying different activities according to the relevant category ⁽⁵⁸⁾, the Commission will refer to its own practice as well as to the specific examples and explanations provided in the OECD Frascati Manual ⁽⁵⁹⁾.
80. The R&D&I eligible costs shall be supported by the most recently available documentary evidence which shall be clear and specific. Additional overheads and other operating expenses, including costs of materials, supplies and similar products, incurred directly as a result of the project, may alternatively be calculated on the basis of a simplified cost approach in the form of a flat-rate of up to 20 %, applied to total eligible direct R&D project costs defined in Annex I, point (a) to (d) and point (g) for health relevant/related R&D projects. In this case, the R&D project costs used for the calculation of indirect costs shall be established on the basis of normal accounting practices and shall comprise only eligible R&D project costs listed in Annex I, points (a) to (d) and point (g) for health relevant/related R&D projects. For projects co-funded under Horizon Europe programme Member States may use the Horizon Europe simplified cost methodology to calculate indirect R&D project costs.
81. The maximum aid intensities generally applicable to all eligible R&D&I measures are set out in Annex II ⁽⁶⁰⁾. Unless otherwise specified in the Framework, all aid intensities applicable to R&D&I measures under the General Block Exemption Regulation will guide the Commission's assessment of the categories of notifiable measures.

⁽⁵⁷⁾ This qualification does not necessarily need to follow a chronological approach, moving sequentially over time from fundamental research to activities closer to the market. Accordingly, nothing will prevent the Commission from classifying a task, which is carried out at a later stage of a project as industrial research, while finding that an activity carried out at an earlier stage constitutes experimental development or is not research at all.

⁽⁵⁸⁾ For practical purposes and unless it is shown that a different scale should be used in individual cases, the different R&D categories can also be considered to correspond to Technology Readiness Levels 1 (fundamental research), 2-4 (industrial research) and 5-8 (experimental development) – see Communication from the Commission, 'A European strategy for Key Enabling Technologies – A bridge to growth and jobs', COM(2012) 341 final, 26.6.2012.

⁽⁵⁹⁾ OECD Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, as amended or replaced.

⁽⁶⁰⁾ Without prejudice to specific provisions applying to aid for research and development in the agricultural and fisheries sectors, as laid down in a block exemption Regulation.

82. In the case of State aid for a project being carried out in collaboration between research organisations and undertakings, the combination of direct public support and, where they constitute aid, contributions from research organisations to the same project must not exceed the applicable aid intensities for each beneficiary undertaking.

3.2.3.1.2. Repayable advances

83. If a Member State awards a repayable advance which qualifies as State aid within the meaning of Article 107(1) of the Treaty, the rules laid down in this section apply.
84. Where a Member State can demonstrate, on the basis of a valid methodology based on sufficient verifiable data, that it is possible to calculate the gross grant equivalent of a repayable advance, it may notify an aid scheme and the associated methodology to the Commission. If the Commission accepts the methodology and deems the scheme compatible, the aid may be awarded on the basis of the gross grant equivalent of the repayable advance, up to the aid intensities laid down in Annex II.
85. In all other cases, the repayable advance is expressed as a percentage of the eligible costs and may exceed the applicable maximum aid intensities by 10 percentage points, provided that the following conditions are fulfilled:
- (a) in case of a successful outcome, the measure must provide that the advance is to be repaid with an interest rate not less than the discount rate resulting from the application of the Communication from the Commission on the revision of the method for setting the reference and discount rates ⁽⁶¹⁾;
 - (b) in case of a success exceeding the outcome defined as successful, the Member State concerned should request payments beyond repayment of the advance amount including interest according to the applicable discount rate;
 - (c) in case the project fails, the advance does not have to be fully repaid. In case of partial success, the repayment should be proportional to the degree of success achieved.
86. For the Commission to assess the measure, it must include detailed provisions on the repayment in case of success, which clearly define what will be considered as a successful outcome, on the basis of reasonable and prudent hypothesis.

3.2.3.1.3. Fiscal measures

87. To the extent it constitutes State aid, the aid intensity of a fiscal measure can be calculated either on the basis of individual projects or, at the level of an undertaking, as the ratio between the overall tax relief and the sum of all eligible R&D&I costs incurred in a period not exceeding three consecutive fiscal years. In the latter case, the fiscal measure may apply without distinction to all eligible activities, but must not exceed the applicable aid intensity for experimental development ⁽⁶²⁾.

3.2.3.1.4. Cumulation of aid

88. Aid may be awarded concurrently under several aid schemes or cumulated with *ad hoc* aid, provided that the total amount of State aid for an activity or project does not exceed the aid ceilings laid down in this framework. As noted in point 10, Union funding centrally managed by the institutions, agencies, joint undertakings or other bodies of the Union that is not directly or indirectly under the control of Member States does not constitute State aid and should not be taken into account. Where such Union funding is combined with State aid, the total amount of public funding awarded in relation to the same eligible costs must however not exceed the most favourable funding rate laid down in the applicable rules of Union law.

⁽⁶¹⁾ Communication from the Commission on the revision of the method for setting the reference and discount rates (OJ C 14, 19.1.2008, p. 6).

⁽⁶²⁾ Conversely, where a fiscal aid measure distinguishes between different R&D categories, the relevant aid intensities must not be exceeded.

89. Testing and experimentation infrastructures co-funded by Union funding, agencies, joint undertakings or other bodies of the Union, could benefit from public support up to 100 % of eligible investment costs, provided that the necessary amount of total public funding (i.e. State aid and other sources of public funding) for the project is demonstrated on the basis of a credible funding gap assessment to ensure that the total amount of public funding does not lead to overcompensation ⁽⁶³⁾.
90. Where the expenditure eligible for R&D&I aid is also potentially eligible in whole or in part for aid for other purposes, the overlapping portion will be subject to the most favourable ceiling under any of the relevant rules.
91. Aid for R&D&I may not be cumulated with *de minimis* support in respect of the same eligible costs if that would result in an aid intensity exceeding those laid down in this framework.

3.2.3.2. Additional conditions for individual aid

92. For notifiable individual aid, mere compliance with a set of predefined maximum aid intensities is not sufficient to ensure proportionality.
93. As a general rule, and in order to establish whether the aid is proportional, the Commission will verify that its amount does not exceed the minimum necessary for the aided project to be sufficiently profitable, for example by making possible to achieve an IRR corresponding to the sector or firm specific benchmark or hurdle rate. Normal rates of return required by the beneficiary in other R&D&I projects, its cost of capital as a whole or returns commonly observed in the industry concerned may also be used for this purpose. All relevant expected costs and benefits must be considered over the lifetime of the project, including the costs and revenues stemming from the results of R&D&I activities.
94. Where it is shown, for example by means of internal company documents, that the aid beneficiary faces a clear choice between carrying out either an aided project or an alternative one without aid, the aid will be considered to be limited to the minimum necessary only if its amount does not exceed the net extra costs of implementing the activities concerned, compared to the counterfactual project that would be carried out in the absence of aid. In order to establish the net extra costs, the Commission will compare the expected net present values of the investment in the aided project and the counterfactual project, account being taken of the probabilities of different business scenarios occurring ⁽⁶⁴⁾.
95. Where aid is awarded for R&D projects or for the construction or upgrade of research infrastructures or for the construction or upgrade of testing and experimentation infrastructures and the Commission can establish, on the basis of the methodology laid down in points 93 or 94, that the aid is strictly limited to the minimum necessary, higher maximum aid intensities than those laid down in Annex II may be allowed, up to the levels set out in the following table:

	Small enterprise	Medium-sized enterprise	Large enterprise
Aid for R&D projects			
Fundamental research	100 %	100 %	100 %
Applied research	80 %	70 %	60 %

⁽⁶³⁾ A claw back mechanism may be implemented as a safeguard.

⁽⁶⁴⁾ In the particular case where aid merely allows for an increase in the speed of completion of the project, the comparison should mostly reflect the different timelines in terms of cash flows and delayed entry in the market.

	Small enterprise	Medium-sized enterprise	Large enterprise
— subject to effective collaboration between undertakings (for large enterprises cross-border or with at least one SME) or between an undertaking and a research organisation; or	90 %	80 %	70 %
— subject to wide dissemination of results, or			
— subject to the R&D project being carried out in assisted regions fulfilling the conditions of Article 107(3)(a) of the Treaty, or	90 % or 85 %	80 % or 75 %	70 % or 65 %
— subject to the R&D project being carried out in assisted regions fulfilling the conditions of Article 107(3)(c) of the Treaty			
Aid for the construction and upgrade of research infrastructures	60 %		
— subject to at least two Member States providing public funding, or	70 %		
— for research infrastructures evaluated and selected at EU level			
Aid for the construction and upgrade of testing and experimentation infrastructures	55 %	45 %	35 %
— subject to at least two Member States providing the public funding, or	65 %	55 %	45 %
— for TELs evaluated and selected at EU level (covering co-funding or 'seal-of-excellence' type of scenario), and/or			
— subject to the testing and experimentation infrastructure providing services predominantly to SMEs (at least allocating 80 % of its capacity for that purpose)	70 % (65+5) or 60 % (55+5)	60 % (55+5) or 50 % (45+5)	50 % (45+5) or 40 % (35+5)

96. In order to demonstrate that aid is limited to the minimum necessary, Member States must explain how the aid amount has been established. Documentation and calculations used for the analysis of the incentive effect can also be used to assess whether the aid is proportionate. Insofar as the identified need for aid relates mainly to difficulties in attracting debt finance from the market, rather than to a lack of profitability, a particularly apt way to ensure that the aid is kept to the minimum may be to provide it in the form of a loan, guarantee or repayable advance instead of a non-repayable form, such as a grant.
97. 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.
98. In order to address actual or potential direct or indirect distortions of international trade, higher intensities than generally permissible under this framework may be authorised if, directly or indirectly, competitors located outside the Union have received in the last three years or are going to receive aid of an equivalent intensity for similar projects. However, where distortions of international trade are likely to occur after more than three years, given the particular nature of the sector in question, the reference period may be extended accordingly. Where possible, the Member State concerned must provide the Commission with sufficient information to enable it to assess the situation, in particular the need to take account of the competitive advantage enjoyed by a third country competitor. Where the Commission does not have evidence concerning the awarded or proposed aid, it may also base its decision on circumstantial evidence.

99. When gathering evidence, the Commission may use its investigative powers ⁽⁶⁵⁾.

3.2.4. Transparency

100. Member States must publish in the European Commission's transparency award module ⁽⁶⁶⁾ or on a comprehensive State aid website, at national or regional level:

- (a) the full text of the individual aid granting decision or the approved aid scheme and its implementing provisions, or a link to it;
- (b) the following information on each individual aid award granted ad-hoc or under an aid scheme approved on the basis of this framework and exceeding EUR 100 000:
 - Identity of the individual beneficiary ⁽⁶⁷⁾
 - Name
 - Beneficiary's identifier
 - Type of beneficiary undertaking at the time of granting:
 - SME
 - Large undertaking
 - Region in which the beneficiary is located, at NUTS level II or below
 - The principal economic sector in which the beneficiary has its activities, at NACE group level ⁽⁶⁸⁾
 - Aid element, and, where different, the nominal amount of aid, expressed as full amount in national currency ⁽⁶⁹⁾
 - Aid instrument ⁽⁷⁰⁾:
 - Grant/Interest rate subsidy/Debt write-off
 - Loan/Repayable advances/Reimbursable grant
 - Guarantee
 - Tax advantage or tax exemption
 - Risk finance
 - Other (please specify)
 - Date of award and the date of publication
 - Objective of the aid
 - Identity of the granting authority or authorities
 - Where applicable, name of the entrusted entity, and the names of the selected financial intermediaries
 - Reference of the aid measure ⁽⁷¹⁾

⁽⁶⁵⁾ See Article 25 of Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union (OJ L 248, 24.9.2015, p. 9).

⁽⁶⁶⁾ 'State Aid Transparency Public Search', available at the following website: <https://webgate.ec.europa.eu/competition/transparency/public?lang=en>

⁽⁶⁷⁾ With the exception of business secrets and other confidential information in duly justified cases and subject to the Commission's agreement (Commission communication of 1.12.2003 on professional secrecy in State aid decisions, C(2003) 4582 (OJ C 297, 9.12.2003, p. 6)).

⁽⁶⁸⁾ Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains (OJ L 393, 30.12.2006, p. 1).

⁽⁶⁹⁾ Gross grant equivalent, or where applicable, the amount of the investment. For operating aid, the annual amount of aid per beneficiary can be provided. For fiscal schemes this amount can be provided by the ranges set out in paragraph 143. The amount to be published is the maximum allowed tax benefit and not the amount deducted each year (e.g. in the context of a tax credit, the maximum allowed tax credit shall be published rather than the actual amount which might depend on the taxable revenues and vary each year).

⁽⁷⁰⁾ If the aid is granted through multiple aid instruments, the aid amount shall be provided by instrument.

⁽⁷¹⁾ As provided by the Commission under the electronic procedure referred to in paragraph 21.

101. Member States must organise their comprehensive State aid websites, as referred to in paragraph 100, in such a way as to allow easy access to the information. Information must be published in a non-proprietary spreadsheet data format, which allows data to be effectively searched, extracted, downloaded and easily published on the internet, for instance in CSV or XML format. The general public must be allowed to access the website without any restrictions, including prior user registration.
 102. For schemes in the form of tax advantages, the conditions set out in paragraph 100 (b) will be considered to be fulfilled if Member States publish the required information on individual aid amounts in the following ranges (in EUR million): [0,1-0,5]; [0,5-1]; [1-2]; [2-5]; [5-10]; [10-30]; [30-60]; [60-100]; [100-250]; and [250 and over].
 103. The information referred to in paragraph 100 (b) must be published within six months from the date of award of the aid, or, for aid in the form of tax advantages, within one year from the date the tax declaration is due ⁽⁷³⁾. For aid that is unlawful but subsequently found to be compatible, Member States must publish this information within six months from the date of the Commission's decision declaring the aid compatible. To enable the enforcement of State aid rules under the Treaty, the information must be available for at least 10 years from the date on which the aid was granted.
 104. The Commission will publish on its website the link to the State aid website referred to in paragraph 101.
- 3.2.5. *Verifying that specific negative effects of R&D&I aid on competition and trading conditions are minimized or avoided*
- 3.2.5.1. *General considerations*
105. The Commission will identify the markets that are affected by the aid, taking into account the information provided by the Member State on the product markets concerned, that is to say the markets affected by the change in behaviour of the aid beneficiary. To the extent that a specific innovative R&D&I activity will be associated with multiple future product markets, the impact of State aid will be considered on the set of markets concerned. The Commission will also identify the affected geographic market, which corresponds to the area in which the undertakings of affected product markets operate, and for which competition conditions are sufficiently homogeneous and clearly can be distinguished from those of neighbouring areas.
 106. The Commission will further assess the distortions of competition based on the foreseeable impact of the R&D&I aid on competition between undertakings in the product and geographic markets concerned ⁽⁷³⁾, that are likely to be negatively affected by the aid, taking also into account the information provided by the Member States on the competitors and customers or consumers affected. In doing so, where appropriate, the Commission may also identify the competitive interactions (substitutes, complements, including also upstream or downstream markets) where the distortions caused by an aid measure are more likely to occur.
 107. The aid allows the aid beneficiary, typically, to gain competitive advantage through, among others, i) reduced production costs, or ii) increased production capacity, or iii) new product development. The Commission considers that the negative effects of the aid will first operate on competitors. For that reason, the Commission should focus at first place on identifying the aid beneficiary's actual or potential competitors that are likely to be negatively affected by the aid.
 108. The Commission identifies two main potential distortions of competition and trade between Member States caused by R&D&I aid, namely product market distortions and location effects. Both types may lead to allocative inefficiencies, undermining the economic performance of the internal market, and distributional concerns, in that the aid affects the distribution of economic activity across regions.

⁽⁷³⁾ If there is no formal requirement for an annual declaration, 31 December of the year for which the aid was granted will be considered as the granting date for encoding purposes.

⁽⁷³⁾ This analysis may address, where relevant, both input and output markets.

109. As far as distortions on the product markets are concerned, State aid for R&D&I may have an impact on competition in innovation processes and in the product markets where the results of the R&D&I activities are exploited.

3.2.5.1.1. Effects on product markets

110. State aid for R&D&I can hamper competition in innovation processes and product markets in three ways, namely by distorting the competitive entry and exit process, by distorting dynamic investment incentives and by creating or maintaining market power.

(a) *Distorting the competitive entry and exit processes*

111. R&D&I aid may prevent the market mechanism from rewarding the most efficient producers and putting pressure on the least efficient to improve, restructure or exit the market. That might lead to a situation where, due to the aid awarded, competitors that would otherwise be able to stay on are forced out of the market, or never enter in the first place. Similarly, State aid can prevent inefficient firms from leaving the market or even induce them to enter and gain market shares from otherwise more efficient competitors. If not correctly targeted, R&D&I aid may therefore support inefficient undertakings and lead to market structures in which many players operate significantly below efficient scale. In the long run, interfering with the competitive entry and exit processes may stifle innovation and slow down industry-wide productivity improvements.

(b) *Distorting dynamic incentives*

112. R&D&I aid may distort the dynamic incentives to invest of competitors of the aid beneficiary. When an undertaking receives aid, the likelihood of successful R&D&I activities on its part generally increases, leading to an increased presence on the relevant product market(s) in the future. That increased presence may lead competitors to reduce the scope of their original investment plans (crowding out effect).

113. Furthermore, the presence of aid may make potential beneficiaries complacent or more risk seeking. The long term effect on the overall performance of the sector is in that case likely to be negative. R&D&I aid may therefore, if not correctly targeted, support inefficient undertakings and lead to market structures where many market players operate significantly below efficient scale.

(c) *Creating or maintaining market power*

114. Aid for R&D&I may also have distortive effects in terms of increasing or maintaining the degree of market power in product markets. Market power is the power to influence market prices, output, the variety or quality of products and services, or other parameters of competition for a significant period of time, to the detriment of consumers. Even where aid does not strengthen market power directly, it may do so indirectly, by discouraging the expansion of existing competitors or inducing their exit or discouraging the entry of new competitors.

3.2.5.1.2. Effects on trade and location choice

115. State aid for R&D&I may also give rise to distortions of competition when it influences the choice of a location. Those distortions can arise across Member States, either when firms compete across borders or consider different locations. Aid aimed at relocating an activity in another region within the internal market may not lead directly to a distortion in the product market, but it displaces activities or investments from one region into another.

3.2.5.1.3. Manifest negative effects

116. In principle, an aid measure and the context in which it is applied need to be analysed to identify the extent to which it can be deemed distortive. However, certain situations can be identified where the negative effects manifestly outweigh any positive effects, meaning that aid cannot be found to be compatible with the internal market.
117. In particular, according to the general principles of the Treaty, State aid cannot be considered compatible with the internal market if the aid measure is discriminatory to an extent not justified by its State aid character. As explained in section 3.1.3, the Commission will thus not allow any measure where such measure or the conditions attached to it entail a violation of relevant Union law ⁽⁷⁴⁾. This is particularly the case for aid measures where the award of aid is subject to the obligation for the beneficiary to have its central seat in the relevant Member State (or to be predominantly established in that Member State) or to use national products or services, as well as for aid measures restricting the possibility for the beneficiary to exploit the R&D&I results in other Member States ⁽⁷⁵⁾.

3.2.5.2. Aid schemes

118. In order to be compatible with the internal market, notifiable aid schemes must not lead to significant distortions of competition and trade. In particular, even where distortions may be considered limited at individual level (provided the aid is necessary and proportional to achieve the common objective), on a cumulative basis aid schemes might still lead to high levels of distortions. Such distortions may for instance result from aid that negatively affects dynamic incentives to innovate on the part of competitors. In the case of a scheme focusing on certain sectors, the risk of that kind of distortions is even more pronounced.
119. Without prejudice to point 145, Member States therefore must demonstrate that any negative effects will be limited to the minimum taking into account, for example, the size of the projects concerned, the individual and cumulative aid amounts, the number of expected beneficiaries as well as the characteristics of the targeted sectors. In order to enable the Commission to assess the likely negative effects of notifiable aid schemes, Member States may submit any impact assessment as well as *ex post* evaluations carried out for similar predecessor schemes.

3.2.5.3. Additional conditions for individual aid

3.2.5.3.1. Distortions in product markets

120. For notifiable individual aid, in order to enable the Commission to identify and assess potential distortions of competition and trade, Member States should provide information on (i) the product markets concerned, that is to say the markets affected by the change in behaviour of the aid beneficiary, and (ii) the competitors and customers or consumers affected.
121. In assessing the negative effects of the aid measure, the Commission will focus its analysis of the distortions of competition on the foreseeable impact of the R&D&I aid on competition between undertakings in the product markets concerned. The Commission will give more weight to risks for competition and trade that arise in the near future and with particular likelihood.
122. To the extent that a specific innovative activity will be associated with multiple future product markets, the impact of State aid will be considered on the set of markets concerned. In certain cases the results of R&D&I activities, for example in the form of IPR, are themselves traded in technology markets, for instance through patent licensing or trading. In those cases, the Commission may also consider the effect of the aid on competition in technology markets.

⁽⁷⁴⁾ Judgment of the Court of Justice of 22 March 1977, *Iannelli & Volpi SpA v Ditta Paolo Meroni* (C-74/76, ECLI:EU:C:1977:51).

⁽⁷⁵⁾ Judgment of the Court of Justice of 10 March 2005, *Laboratoires Fournier SA v Direction des vérifications nationales et internationales* (C-39/04, ECLI:EU:C:2005:161).

123. The Commission will use various criteria to assess the potential distortions of competition, namely distorting dynamic incentives, creating or maintaining market power, and maintaining inefficient market structures.

(a) *Distorting dynamic incentives*

124. In its analysis of the potential distortion of dynamic incentives, the Commission will consider the following elements:

- (i) *Market growth*: the more the market is expected to grow in the future, the less likely that the competitors' incentives will be negatively affected by the aid, given that there remain ample opportunities to develop a profitable business;
- (ii) *Aid amount*: aid measures which involve significant amounts of aid are more likely to lead to significant crowding out effects. The significance of the aid amount will be measured mainly with reference to the amount spent by the main market players on projects of a similar kind;
- (iii) *Closeness to the market / category of the aid*: the more the aid measure is aimed at activities close to the market, the more it is liable to develop significant crowding out effects;
- (iv) *Open selection process*: where the aid is awarded on the basis of transparent, objective and non-discriminatory criteria, the Commission will take a more positive stance;
- (v) *Exit barriers*: competitors are more likely to maintain, or even to increase their investment plans when exit barriers to the innovation process are high. That may be the case when many of the competitors' past investments are locked in to a particular R&D&I trajectory;
- (vi) *Incentives to compete for a future market*: R&D&I aid may lead to a situation where competitors of the aid beneficiary renounce competing for a future 'winner takes all' market, because the advantage provided by the aid, in terms of degree of technological advance, economies of scale, network effects or timing, reduces their possibility to potentially successfully enter that future market;
- (vii) *Product differentiation and intensity of competition*: where product innovation is rather about developing differentiated products, related for example to distinct brands, standards, technologies or consumer groups, competitors are less likely to be affected. The same situation arises where there are many effective competitors in the market.

(b) *Creating or maintaining market power*

125. The Commission is concerned mainly about those R&D&I measures which enable the aid beneficiary to strengthen market power held on existing product markets or to transfer it to future product markets. The Commission is therefore unlikely to identify competition concerns related to market power in cases where the aid beneficiary has a market share below 25 % and in markets with a market concentration below 2 000 on the Herfindahl-Hirschman Index (HHI).

126. In its analysis of market power, the Commission will consider the following elements:

- (i) *Market power of the aid beneficiary and market structure*: where the aid recipient is already dominant on a product market, the aid measure may reinforce that dominance by further weakening the competitive constraint that competitors can exert on the recipient undertaking. Similarly, State aid measures may have a significant impact in oligopolistic markets where only a few players are active;
- (ii) *Level of entry barriers*: in the field of R&D&I, there may be significant barriers to entry for new entrants. Those barriers include legal entry barriers (in particular in respect of IPR), economies of scale and scope, access barriers to networks and infrastructure, and other strategic barriers to entry or expansion;
- (iii) *Buyer power*: the market power of an undertaking may also be limited by the market position of the buyers. The presence of strong buyers can serve to counter a finding of a strong market position if it is likely that the buyers will seek to preserve sufficient competition in the market;

- (iv) *Selection process*: aid measures which allow undertakings with a strong market position to influence the selection process, for example by having the right to recommend undertakings in the selection process or influencing the research path in a way which disfavours alternative paths on unjustified grounds, are liable to raise concern by the Commission.

(c) *Maintaining inefficient market structures*

127. In its analysis of market structures, the Commission will consider whether the aid is awarded in markets featuring overcapacity or in declining industries. However, in situations where the market is growing or where State aid for R&D&I is likely to change the overall growth dynamics or in particular the GHG emissions' footprint of the sector (in accordance with the European Green Deal and European Digital Strategy Communications), notably as a result of introducing new technologies, for example to achieve decarbonisation or the digitalisation of the production, or both, without an increase in capacities, such aid is not likely to raise concerns.

3.2.5.3.2. Location effects

128. In particular where R&D&I aid is close to the market, it may result in some territories benefiting from more favourable conditions in respect of subsequent production, particularly because of comparatively lower production costs as a result of the aid or due to higher levels of R&D&I activities pursued through the aid. That may lead undertakings to re-locate to those territories.
129. Location effects may also be relevant to research infrastructures and testing and experimentation infrastructures. If aid is mainly used to attract an infrastructure to a particular region at the expense of another, it will not contribute to promoting further R&D&I activities in the Union.
130. In its analysis of notifiable individual aid, the Commission will accordingly take into account any evidence that the aid beneficiary has considered alternative locations.
131. Likewise, aid that merely leads to a change in location of R&D&I activities within the internal market without changing the nature, size or scope of the project will not be considered compatible.

3.2.6. *Weighing up the positive and the negative effects of the aid*

132. The Commission assesses whether the identified negative effects on competition and trading conditions of the aid measure outweigh the positive effects of the planned aid.

3.2.6.1. Identifying the positive effects to be taken into account

133. There is a correlation between economic growth and R&D&I investment. R&D&I activity increases productivity and boosts economic development. Hence, R&D&I is an important factor for the Union undertakings to ensure economic development by means of developing new products, technologies, services or production processes or both.
134. Investments in R&D&I are of high importance for the development of all sectors of the economy, since they are strongly linked to productivity.
135. As a first step of the balancing test, the Commission will assess the positive effects of the aid on the aided economic activity, duly taking into account the R&D&I activity which is triggered by the aid measure in question, or the size, scope or speed of the R&D&I project which is to be enhanced by the aid measure.

136. In addition, the Commission may also assess whether the aid brings about wider R&D&I-related positive effects. Where such broader positive effects reflect those embodied in Union policies, such as the new ERA for Research and Innovation, the European Green Deal, the European Digital Strategy and the New Industrial Strategy for Europe Communications, then the R&D&I aid aligned with such Union policies can be presumed to have such wider positive effects.
137. The Commission acknowledges that both private and public investments are required to support and speed up R&D&I activities into critical technologies, which when deployed on the market would facilitate the digital transformation of the Union industry and Union's transition to a zero/low-carbon economy, as well as to a circular and zero-pollution one, where natural capital is protected. The Commission takes a favourable view when the R&D&I activities supported by Member States are in accordance with the Regulation (EU) 2020/852 of the European Parliament and of the Council ⁽⁷⁶⁾, the latter constituting one of the possible methodologies to identify R&D&I activities for technologies, products or other solutions for environmentally sustainable economic activities.
138. Member States considering awarding State aid for R&D&I, must precisely define the objective pursued, and in particular explain how the measure intends to promote R&D&I. For measures co-financed by the European Structural and Investments Funds, Member States may rely on the reasoning in the relevant Operational Programmes.
139. The Commission takes a favourable view of aid measures, which are an integral part of a comprehensive programme or action plan to stimulate R&D&I activities or smart specialisation strategies, and are supported by rigorous evaluations of similar past aid measures demonstrating their effectiveness.
140. With respect to State aid, which is awarded for projects or activities that are also financed by the Union, either directly or indirectly, that is to say by the Commission, by its executive agencies, by joint undertakings established in accordance with Articles 185 and 187 of the Treaty, or by any other implementing bodies where the Union funding is not directly or indirectly under the control of Member States, the Commission will consider that the related positive effects have been established.

3.2.6.1.1. Additional considerations for individual aid

141. In order to demonstrate that individual aid subject to the notification obligation ('notifiable individual aid') contributes to an increased level of R&D&I activities, Member States may use the following indicators, together with other relevant quantitative or qualitative elements:
- (a) *increase in project size*: increase in the total project costs (without a decrease in spending by the aid beneficiary when compared to the situation without aid); increase in the number of people assigned to R&D&I activities;
 - (b) *increase in scope*: increase in the number of the expected deliverables of the project; increase in the level of ambition of the project evidenced by a higher number of partners involved; increase in cross-border R&D&I activities; a higher probability of a scientific or technological break-through or a higher risk of failure (notably linked to the long-term nature of the project and uncertainty about its results);
 - (c) *increase in speed*: the completion of the project requires less time when compared to the completion time necessary for the same project carried out without aid;
 - (d) *increase in total amount spent*: increase in total R&D&I spending by the aid beneficiary, in absolute terms or as a proportion of turnover; changes in the committed budget for the project (without a corresponding decrease in the budget allocated to other projects).

⁽⁷⁶⁾ Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (OJ L 198, 22.6.2020, p. 13).

142. In order to conclude that the aid contributes to increasing the level of R&D&I in the Union, the Commission will consider not only the net increase of R&D&I carried out by the undertaking, but also the contribution of the aid to the overall increase of R&D&I spending in the sector concerned, the increase in cross-border R&D&I activities within the Union, as well as to the improvement of the Union situation with regard to R&D&I in the international context. A favourable view will be taken regarding aid measures, for which a publicly available *ex post* evaluation of their positive effects is envisaged.

3.2.6.2. Balancing of the positive effects against the negative effects of the aid

143. Finally, the Commission will balance the identified negative effects of the aid measure in terms of distortions of competition and impact on trade between Member States (see section 3.2.1 to 3.2.5) against the positive effects of the planned aid (see section 3.2.6.1) for the development of the economic activities and the Union's economy or society, or both, and conclude on the compatibility of the aid measure with the internal market only where the positive effects outweigh the negative ones.
144. In cases where the proposed aid measure does not address a well-identified market failure in an appropriate and proportionate way, the negative distortive effects on competition will tend to outweigh the positive effects of the measure hence the Commission is likely to conclude that the proposed aid measure is incompatible.
145. The overall balance of certain categories of aid schemes may further be made subject to a requirement of *ex post* evaluation referred to in Section 4. In such cases, the Commission may limit the duration of those schemes to four years or less with a possibility of re-notifying their prolongation afterwards.

4. Evaluation

146. To further ensure that distortion of competition and trade is limited, the Commission may require that aid schemes as referred to in paragraph 147 are subject to an *ex post* evaluation. Evaluations will be carried out for schemes where the potential distortion of competition and trade is particularly high, i.e. that may risk significantly restricting or distorting competition if implementation is not reviewed in due time.
147. *Ex post* evaluation may be required for schemes with large aid budgets, or containing novel characteristics, or when significant market, technology or regulatory changes are foreseen. In any case, evaluation will be required for schemes with a State aid budget or accounted expenditure over EUR 150 million in any given year or EUR 750 million over their total duration, i.e. the combined duration of the scheme and any predecessor scheme covering a similar objective and geographical area, starting from 1 January 2022. Given the objectives of the evaluation, and to avoid putting a disproportionate burden on Member States, *ex post* evaluations are only required for aid schemes the total duration of which exceeds three years, starting from 1 January 2022.
148. The *ex post* evaluation requirement may be waived for aid schemes that are an immediate successor of a scheme covering a similar objective and geographical area that has been subject to an evaluation, delivered a final evaluation report in compliance with the evaluation plan approved by the Commission and has not generated any negative findings. Where the final evaluation report of a scheme is not in compliance with the approved evaluation plan, that scheme must be suspended with immediate effect.
149. The aim of the evaluation should be to verify whether the assumptions and conditions underlying the compatibility of the scheme have been achieved, in particular the necessity and the effectiveness of the aid measure in the light of its general and specific objectives. It should also assess the impact of the scheme on competition and trade.

150. For aid schemes subject to the evaluation requirement according to paragraph 147, Member States must notify a draft evaluation plan, which will form an integral part of the Commission's assessment of the scheme, as follows:
- (a) together with the aid scheme, if the State aid budget of the scheme exceeds EUR 150 million in any given year or EUR 750 million over its total duration;
 - (b) within 30 working days following a significant change that increases the budget of the scheme to over EUR 150 million in any given year or EUR 750 million over the total duration of the scheme;
 - (c) within 30 working days following the recording in official accounts of expenditure under the scheme in excess of EUR 150 million in any year.
151. The draft evaluation plan must be in line with the common methodological principles provided by the Commission ⁽⁷⁷⁾. Member States must publish the evaluation plan approved by the Commission.
152. The *ex post* evaluation must be carried out by an expert independent from the aid granting authority on the basis of the evaluation plan. Each evaluation must include at least one interim and one final evaluation report. Member States must publish both reports.
153. The final evaluation report must be submitted to the Commission in due time to assess any prolongation of the aid scheme and at the latest nine months before its expiry. That period may be reduced for schemes triggering the evaluation requirement in their last two years of implementation. The precise scope and arrangements for each evaluation will be set out in the decision approving the aid scheme. The notification of any subsequent aid measure with a similar objective must describe how the results of the evaluation have been taken into account.

5. Reporting and Monitoring

154. In accordance with Council Regulation (EC) No 2015/1589 ⁽⁷⁸⁾ and Commission Regulation (EC) No 794/2004 ⁽⁷⁹⁾ Member States must submit annual reports to the Commission.
155. Member States must maintain detailed records regarding all aid measures. Such records must contain all information necessary to establish that the conditions regarding eligible costs and maximum aid intensities have been fulfilled. Those records must be maintained for ten years from the date of award of the aid and must be provided to the Commission upon request.

6. Applicability

156. The Commission will follow the principles and guidelines set out in this Communication for the compatibility assessment of all notified R&D&I aid in respect of which it is called upon to take a decision after 19 October 2022. Unlawful R&D&I aid will be assessed in accordance with the rules applicable on the date on which the aid was awarded.
157. Pursuant to Article 108(1) of the Treaty, the Commission proposes that Member States amend, where necessary, their existing R&D&I aid schemes to ensure compliance with this framework no later than 6 months as of the entry into force of this Framework.

⁽⁷⁷⁾ Commission staff working document, Common methodology for State aid evaluation, Brussels, 28.5.2014, SWD(2014) 179 final, or any of its successors.

⁽⁷⁸⁾ Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union (OJ L 248, 24.9.2015, p. 9).

⁽⁷⁹⁾ 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).

158. Member States are invited to give their explicit unconditional agreement to the appropriate measures referred to in point 157 within two months from the date of publication of this framework in the *Official Journal of the European Union*. In the absence of a reply from any of the Member States, the Commission will consider that the Member State in question does not agree with the proposed measures.

7. Revision

159. The commission may decide to review or amend this framework at any time should it be necessary for reasons associated with competition policy or in order to take account of other Union policies and international commitments or for any other justified reason.
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ANNEX I

Eligible costs

Aid for R&D projects	(a) Personnel costs: researchers, technicians and other supporting staff to the extent employed on the project. (b) Costs of instruments and equipment to the extent and for the period used for the project. If such instruments and equipment are not used for their full life for the project, only the depreciation costs corresponding to the life of the project, as calculated on the basis of good accounting practice, are considered as eligible. (c) Costs of buildings and land, to the extent and for the period used for the project. With regard to buildings, only the depreciation costs corresponding to the life of the project, as calculated on the basis of good accounting practice are considered as eligible. For land, costs of commercial transfer or actually incurred capital costs are eligible. (d) Cost of contractual research, knowledge and patents bought or licensed from outside sources at arm's length conditions, as well as costs of consultancy and equivalent services used exclusively for the project. (e) Additional overheads incurred directly as a result of the project. (f) Other operating expenses, including costs of materials, supplies and similar products incurred directly as a result of the project. (g) Specifically for health relevant/related R&D projects: ⁽¹⁾ all costs necessary for the R&D project during its duration, amongst others, personnel costs, costs for digital and computing equipment, for diagnostic tools, for data collection and processing tools, for R&D services, for pre-clinical and clinical trials (trial phases I-IV); phase-IV trials are eligible as long as they allow further scientific or technological advance.
Aid for feasibility studies	Costs of study.
Aid for the construction and upgrade of research infrastructures	Investment costs in intangible and tangible assets.
Aid for the construction and upgrade of testing and experimentation infrastructure	Investment costs in intangible and tangible assets.
Innovation aid for SMEs	a) Costs for obtaining, validating and defending patents and other intangible assets. b) Costs for secondment of highly qualified personnel from a research and knowledge dissemination organisation or a large enterprise, working on R&D&I activities in a newly created function within the beneficiary and not replacing other personnel. c) Costs for innovation advisory and support services.

⁽¹⁾ Health relevant/related research includes research into vaccines, medicinal products and treatments, medical devices and hospital and medical equipment, disinfectants, and protective clothing and equipment, and into relevant process innovations for an efficient production of the required products.

Aid for process and organisational innovation	a) Personnel costs to the extent employed on the project. b) Costs of instruments and equipment to the extent and for the period used for the project. If such instruments and equipment are not used for their full life for the project, only the depreciation costs corresponding to the life of the project, as calculated on the basis of good accounting practice, are considered as eligible. c) Costs of buildings and land, to the extent and for the period used for the project. With regard to buildings, only the depreciation costs corresponding to the life of the project, as calculated on the basis of good accounting practice are considered as eligible. For land, costs of commercial transfer or actually incurred capital costs are eligible. d) Costs of contractual research, knowledge and patents bought or licensed from outside sources at arm's length conditions, as well as costs of consultancy and equivalent services used exclusively for the project. e) Additional overheads incurred directly as a result of the project. f) Other operating costs, including costs of materials, supplies and similar products, incurred directly as a result of the project.
Aid for innovation clusters	
Investment aid	Investment costs in tangible and intangible assets.
Operating aid	Personnel and administrative costs (including overhead costs) relating to: (a) animation of the cluster to facilitate collaboration, information sharing and the provision or channelling of specialised and customised business support services. (b) marketing of the cluster to increase participation of new undertakings or organisations and to increase visibility. (c) management of the cluster's facilities; and (d) organisation of training programmes, workshops and conferences to support knowledge sharing and networking and transnational cooperation.

ANNEX II

Maximum aid intensities

	Small enterprise	Medium-sized enterprise	Large enterprise
Aid for R&D projects			
Fundamental research	100 %	100 %	100 %
Industrial research	70 %	60 %	50 %
— subject to effective collaboration between undertakings (for large enterprises, cross-border or with at least one SME) or between an undertaking and a research organisation; or	80 %	75 %	65 %
— subject to wide dissemination of results, or			
— subject to the R&D project being carried out in assisted regions fulfilling the conditions of Article 107(3)(c) of the Treaty or	75 % or 80 %	65 % or 75 %	55 % or 65 %
— subject to the R&D project being carried out in assisted regions fulfilling the conditions of Article 107(3)(a) of the Treaty			
Experimental development	45 %	35 %	25 %
— subject to effective collaboration between undertakings (for large enterprises, cross-border or with at least one SME) or between an undertaking and a research organisation; or	60 %	50 %	40 %
— subject to wide dissemination of results, or			
— subject to the R&D project being carried out in assisted regions fulfilling the conditions of Article 107(3)(c) of the Treaty, or	50 % or 60 %	40 % or 50 %	30 % or 40 %
— subject to the R&D project being carried out in assisted regions fulfilling the conditions of Article 107(3)(a) of the Treaty			
Aid for feasibility studies	70 %	60 %	50 %
— in assisted regions fulfilling the conditions of Article 107(3)(c) of the Treaty, or	75 % or 80 %	65 % or 75 %	55 % or 65 %
— in assisted regions fulfilling the conditions of Article 107(3)(a) of the Treaty			
Aid for the construction and upgrade of research infrastructures	50 %	50 %	50 %
— subject to at least two Member States providing the public funding, or	60 %	60 %	60 %
— for research infrastructures evaluated and selected at EU level			
Aid for the construction and upgrade of testing and experimentation infrastructures	45 %	35 %	25 %
— subject to at least two Member States providing the public funding, or	55 %	45 %	35 %
the testing and experimentation infrastructures has been evaluated and selected at EU level, and / or			

	Small enterprise	Medium-sized enterprise	Large enterprise
— subject to the testing and experimentation infrastructure providing services predominantly to SMEs (at least allocating 80% of its capacity for that purpose)	60% (55 + 5) or 50% (45 + 5)	50% (45 + 5) or 40% (35 + 5)	40% (35 + 5) or 30% (25 + 5)
Innovation aid for SMEs	50 %	50 %	-
Aid for process and organisational innovation			
— aid for large undertakings is subject to effective collaboration with at least one SME	50 %	50 %	15 %
Aid for innovation clusters			
Investment aid	50 %	50 %	50 %
— in assisted regions fulfilling the conditions of Article 107(3)(c) of the Treaty, or	55 % or	55 % or	55 % or
— in assisted regions fulfilling the conditions of Article 107(3)(a) of the Treaty	65 %	65 %	65 %
Operating aid	50 %	50 %	50 %

CORRIGENDA

Corrigendum to Council Regulation (EU) 2023/195 of 30 January 2023 fixing for 2023 the fishing opportunities for certain stocks and groups of fish stocks applicable in the Mediterranean and Black Seas and amending Regulation (EU) 2022/110 as regards the fishing opportunities for 2022 applicable in the Mediterranean and the Black Seas

(Official Journal of the European Union L 28 of 31 January 2023)

1. On page 234, Annex I, Table 2, first row, second column:

for: 'Zone: Union waters in the Mediterranean Sea – GSAs 1-27 COL/GF 1-27',

read: 'Zone: Union waters in the Mediterranean Sea – GSAs 1-27 (COL/GF1-27)'.

2. On page 238, Annex III, point 2(a), table, first row, second column:

for: 'Zone: GSAs 1-2-5-6-7 (ARA/GF 1-7)',

read: 'Zone: GSAs 1-2-5-6-7 (ARA/GF1-7)'.

3. On page 238, Annex III, point 2(b), first table, first row, second column:

for: 'Zone: GSAs 8-9-10-11 (ARA/GF 8-11)',

read: 'Zone: GSAs 8-9-10-11 (ARA/GF8-11)'.

4. On page 238, Annex III, point 2(b), second table, first row, second column:

for: 'Zone: GSAs 8-9-10-11 (ARS/GF 8-11)',

read: 'Zone: GSAs 8-9-10-11 (ARS/GF8-11)'.

5. On page 239, Annex IV, point 1, table 'Maximum level of catches expressed in tonnes live weight', first row, second column:

for: 'Zone: Union and international waters of GFCM – GSAs 17 and 18 (SP1/GF 17-18)',

read: 'Zone: Union and international waters of GFCM – GSAs 17 and 18 (SP1/GF1718)'.

6. On page 241, Annex V, point 1(b), table, first row of the two concerning 'MLT' (Malta):

<i>for:</i>	MLT	OTB	T-11	EFF4/MED4_OTB4	338'
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<i>read:</i>	MLT	OTB	T-11	EFF4/MED4_OTB3	338'
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7. On page 242, Annex V, point 1(c), table, first row, second column:

for: 'Zone: GSAs 12-13-14-15-16 (DPS/GF 12-16)',

read: 'Zone: GSAs 12-13-14-15-16 (DPS/GF12-16)'.

8. On page 242, Annex V, point 2(a), table, row concerning Malta:

<i>for:</i>	Malta	OTB	15	2 007	5 562'
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<i>read:</i>	Malta	OTB	15	5 562	2 007'
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9. On page 242, Annex V, point 2(b), table, first row, second column:

for: 'Zone: GSAs 12-13-14-15-16 (ARS/GF 12-16)',

read: 'Zone: GSAs 12-13-14-15-16 (ARS/GF12-16)'.

10. On page 242, Annex V, point 2(c), table, first row, second column:

for: 'Zone: GSAs 12-13-14-15-16 (ARA/GF 12-16)',

read: 'Zone: GSAs 12-13-14-15-16 (ARA/GF12-16)'.

11. On page 243, Annex VI, point 1(b), table, first row, second column:

for: 'Zone: GSAs 19-20-21 (ARS/GF 19-21)',

read: 'Zone: GSAs 19-20-21 (ARS/GF19-21)'.

12. On page 243, Annex VI, point 1(c), table, first row, second column:

for: 'Zone: GSAs 19-20-21 (ARA/GF 19-21)',

read: 'Zone: GSAs 19-20-21 (ARA/GF19-21)'.

13. On page 244, Annex VI, point 2(b), table, first row, second column:

for: 'Zone: GSAs 24-25-26-27 (ARS/GF 24-27)',

read: 'Zone: GSAs 24-25-26-27 (ARS/GF24-27)'.

14. On page 244, Annex VI, point 2(c), table, first row, second column:

for: 'GSAs 24-25-26-27 (ARA/GF 24-27)',

read: 'GSAs 24-25-26-27 (ARA/GF24-27)'.

15. On page 245, Annex VII, point (a), table, first row, second column:

for: 'Zone: Union waters in the Alboran Sea – GSAs 1-2-3 (SBR/GF 1-3)',

read: 'Zone: Union waters in the Alboran Sea – GSAs 1-2-3 (SBR/GF1-3)'.

**Corrigendum to Regulation (EU) 2021/241 of the European Parliament and of the Council of
12 February 2021 establishing the Recovery and Resilience Facility**

(Official Journal of the European Union L 57 of 18 February 2021)

On page 46, Article 24(6):

for: ‘6. Where, as a result of the assessment referred to in paragraph 5, the Commission establishes that the milestones and targets set out in the Council implementing decision referred to in Article 20(1) have not been satisfactorily fulfilled, ...’,

read: ‘6. Where, as a result of the assessment referred to in paragraph 3, the Commission establishes that the milestones and targets set out in the Council implementing decision referred to in Article 20(1) have not been satisfactorily fulfilled, ...’.

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