

## CHAPTER 10

### State Aid and Procurement for Research, Development and Innovation

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#### *1. Introduction*

Promotion of research, development and innovation also known as R&D&I, is one of the most important prerequisites of supporting competitiveness in the European Union, and, at the same time, a guarantee for its economic growth and sustainable development.<sup>(1)</sup> Innovation is also a solution to modern challenges such as the financial crisis and its effects on the banking system, the need to redesign sectors such as energy, transport and environment to reduce climate change, the difficulties and challenges of the health system, the compelling need of finding talented scientists in the pharmaceutical industry, and many more, which must all be quickly and efficiently overcome.

The purpose of innovation in the modern economy is not always to produce something new. Sometimes innovation means changing something the society already has, and making it memorable. When we look at the example of modern earphones, we notice that in the beginning of the 21<sup>st</sup> century all earphones were functional and black. Apple made history in 2001 by changing the shape and the color without changing the production mechanism.

Innovation is more about reaching it than defining it. However, some attempts of defining it exist. For instance, it was defined as “the creation of

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(1) According to the Europe 2020 strategy, an agenda which aims to give an overall view of where the EU should be on key parameters by 2020, 3% of the EU's gross domestic product (GDP) shall be invested in R&D&I by that time, EC Comm. to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions, “Europe 2020, Flagship Initiative Innovation Union”.

new (or the efficient reallocation of existing) resources which contribute to progress”.<sup>(2)</sup>

Research, development, and innovation are concerned with strong roots in the history of Europe and their first official legal framework is represented by the 1986 Single European Act (SEA), which was not only the biggest revision of the 1957 Treaty of Rome, but also an important step towards the process of recognizing the need for innovation. This was a key moment, when Europe started thinking big and realized that profound innovation was needed in the way that services in EU were designed and delivered in the direction of solving the new challenges that had emerged. The contribution of the SEA was even more important in the field of R&D&I since it was the first to establish the well-known objective of “strengthening the scientific and technological basis of European industry and of encouraging it to become more competitive at international level”.<sup>(3)</sup>

Innovation is different from research and development, but R&D can lead to innovation. Research and development is the process used for obtaining knowledge, which will be further used to create innovative new products, services, or technologies. When comparing research and development with innovation, it is confirmed that R&D is more about improving technologies of production, whilst innovation is more concerned with developing the process of bringing those goods or services on the market in the most original and the fastest possible way. R&D is a part of innovation, which is more of a process that uses R&D. Whereas R&D uses money to achieve knowledge and new technologies, innovation, which includes a commercialization phase, uses the knowledge to create new business.

But how can the EU reach innovation, research, and development? Do EU laws and regulations stimulate enough innovation in the economy of Member States? Which are the proper instruments and other existing policy programs that Member States can use to achieve R&D&I? Article 180(4) and

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(2) M. GRANIERI and A. RENDA, *Innovation Law and Policy in the European Union: Towards Horizon 2020*, New York, Springer 2012, p. 4.

(3) Art. 130, SEA, unmodified since 1986, provides that the Community shall carry out the following activities, complementing the activities carried out in the Member States: implementation of research, technological development and demonstration programmes, by promoting cooperation with undertakings, research centres and universities; promotion of cooperation in the field of Community research, technological development, and demonstration with third countries and international organizations; dissemination and optimization of the results of activities in Community research, technological development, and demonstration; stimulation of the training and mobility of researchers in the Community.

(4) Art. 180 (ex Art. 164 TEC): In pursuing these objectives, the Union shall carry out the following activities, complementing the activities carried out in the Member States: (a) implementation of research, technological development and demonstration programmes, by promoting cooperation with and between undertakings, research centres and universities; (b) promotion of cooperation in the field of Union research, technological development and demonstration with third countries and international organisations; (c) dissemination and optimisation of the results of activities in Union research, technological development and demonstration; (d) stimulation of the training and mobility of researchers in the Union.

Article 181(5) from the Treaty illustrate and explain the activities to be carried out for promoting research and development, but further legal instruments are needed in order to achieve these objectives.

In this paper, we look at State aid and public procurement for R&D&I as legal instruments to foster innovation in the EU and attempt to assess the interactions between the two legal and policy instruments. We look at State aid for R&D&I and procurement for innovation in terms of advantages and disadvantages for public authorities, and based on secondary data we analyze their use in the European Union.

## ***2. Conceptual Background – Instruments for State Intervention on Public Markets***

The role of the State is to ensure, defend and promote the public interest and well-being of both the individuals and constituent groups of a society. When speaking of State intervention on public markets, the questions are: Why do States intervene? What is the reasoning behind this intervention? When do States intervene and which instruments of intervention are used?

States usually intervene in public markets not only when their resources are not optimally distributed, but also to fight against inefficiency and market failures. Market failure in the process of allocation of funds, unequal distribution of income between the members of society, as well as the need for regulation of the economy, can also determine the State's intervention on public markets.<sup>(6)</sup>

The general justification for governments' intervention is to achieve efficiency or other goals which are important to society and its members. If the private sector and the public sector followed totally different directions, then the private sector might gain more autonomy, the two sectors would experience far too many discrepancies and differences between these two sectors. Worse, the State might lose control and supervision, which is considered worldwide as a state prerogative.

A balance and developed economy involves encouraging competitiveness and an active collaboration between private and public sectors in delivering the needed infrastructure for a well-functioning society. The relationship

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(5) Art. 181 (ex Art. 165 TEC): 1. The Union and the Member States shall coordinate their research and technological development activities so as to ensure that national policies and Union policy are mutually consistent. 2. In close cooperation with the Member State, the Commission may take any useful initiative to promote the coordination referred to in paragraph 1, in particular initiatives aiming at the establishment of guidelines and indicators, the organisation of exchange of best practice, and the preparation of the necessary elements for periodic monitoring and evaluation. The European Parliament shall be kept fully informed.

(6) G. MANKIW and M.P. TAYLOR, *Economics*, London, Cengage Learning EMEA, 2006, p. 5.

between public and private sectors in delivering public services relates to the concept of public-private partnership.(7) The collaboration of the public sector with the private operator brings multiple benefits to both sides, such as value for money, lower costs and innovative outcomes.

There are various policy instruments available that Member States may use for fostering innovation, either by spending public funds or by using the resources of the private sectors. State aid, for example can be granted for R&D&I in multiple forms. The State may also use public procurement for innovation. The choice between these two legal instruments should be based on an understanding of their respective functionalities and how effective they can be in achieving the innovation goals. It is also important to keep in mind that there may be other, better instruments that can lead to innovation, such as an increased funding in public research and education or general fiscal measures.(8)

### ***3. Public Procurement for Innovation***

#### **3.1. From classical procurement to strategic procurement**

Public procurement across the EU Single Market is defined as a process of buying works, goods, or services, by contracting authorities from private actors in a transparent, fair, and competitive manner, which generates business opportunities, increases competition, and drives economic growth on the Single Market.(9) Public procurement policy must ensure an efficient use of public funds and open EU-wide procurement markets. Of these goals, the most important public procurement goals are achieving value for money by promoting competition and ensuring the integrity and transparency of the procedures.(10)

Public procurement in the EU is subject to the principles of the Treaty, and the detailed provisions of the EU Directives on public procurement(11), which coordinate all the national procurement rules. The modernization of the Public

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(7) For related discussion on public private partnerships, C. BOVIS, *Public private partnerships in the EU*, London, Routledge Taylor & Francis, 2014, pp. 86-110.

(8) EC Comm., “Framework for State aid for research and development and innovation”, Section 4.3.1.

(9) Definition from the OECD.

(10) A. SANCHEZ GRAELLS, *Public Procurement and the EU competition rules*, 2nd ed., Oxford, Hart Publ., 2015, p. 102. In this particular case, the author stressed the diversity of Public Procurement goals, underlining the idea that its economic objectives are the “most noteworthy.”

(11) Dir. 2014/24/EU on public procurement (known as the ‘classic directive’); Dir. 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors (the ‘sector specific directive’); and Dir. 2014/23/EU on the award of concession contracts.

Procurement Directives in 2014 included new provisions relating to innovation as a goal of public procurement. Innovation is included among the strategic goals of procurement, alongside green procurement and social procurement.

Procurement for innovation relates to purchasing products or services that do not yet exist, or that need major improvements so they must use research and development to fulfill those features requested by the contracting authorities in the tender procedure.<sup>(12)</sup> Before public procurement was just based on lowest price or value for money. This paradigm has shifted: “public procurement has recently started to move towards strategic innovation, as an instrument that can lead to satisfying unsatisfied human needs and solving societal problems”.<sup>(13)</sup>

The interest in public procurement as a driver for innovation can be traced back to the first programmatic documents relating to a Europe of innovation. In 2004 the Kok report meant to revitalize the Lisbon strategy by promoting recommendations for procurement practices favorable to R&D and innovation, sustaining eco-innovations and national road maps for the implementation of the EU's Environmental Technology Action Plan (ETAP) and even promoting national action plans for ‘greening’ public procurement.<sup>(14)</sup>

### 3.2. The legal provisions

The legal provisions that are relevant for procurement for innovation can be found in different places in the Procurement Directives 2014, although the main instrument is considered to be the innovation partnership.

First, in the context of public procurement *innovation* is defined in the Directive as “the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organizational method in business practices, workplace organization or external relations inter alia with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth”.<sup>(15)</sup>

(12) Art. 31(1) and Art. 2(I)22 of the Dir. 2014/24/EU, “provides indication for public procurement procedures in its reference to the need for such innovative product or works”; see P. TELLES and L.R.A. BUTLER, “Public procurement award procedures in Directive 2014/24/UE”, in *Modernising Public Procurement: The New Directive* (F. LICHÈRE, R. CARANTA and S. TREUMER eds), Copenhagen, Djørf, 2014, p. 133.

(13) C. EDQUIST, J.M. ZABALA-ITURRIAGAGOITIA and J. MIKEL, “Public Procurement for Innovation as mission-oriented innovation policy”, *Research Pol.*, Vol. 41, Iss. 10, December 2012, pp. 1757-1769. The same authors have made a classification of procurement for innovation according to three dimensions: “(i) the user of the purchased good; (ii) the character of the procurement process; and (iii) the cooperative or non-cooperative nature of the process”.

(14) Report from the High Level Group chaired by W. KOK, *Facing the challenge The Lisbon strategy for growth and employment*, November 2004.

(15) Art. 2, par. 1 and 22, Dir. 2014/24/EU.

Second, there are several legal provisions that can be referred to when buying innovation:

- Article 14 from the Directive relates to R&D services covered by the Directive;
- Article 26 on the choice of procedures makes reference to the competitive procedure with negotiation and to competitive dialogue, which may also include requirements related to design or innovative solutions;
- Article 32 (3) – a negotiated procedure without prior publication of a tender notice can be conducted in order to buy products manufactured purely for research, experimentation, study or development, but does not include quantity production to establish commercial viability or to recover research and development costs; it also excludes the purchase of ‘first products’ developed as a result of research.
- Article 32 (2) b – the negotiated procedure without prior publication may be used where the works, supplies or services can be supplied only by a particular economic operator for any of the following reasons: (...) the protection of exclusive rights, including intellectual property rights.

Third, a new dedicated procedure was inserted in the Directives. Apart from the above general procedures that may include requirements for innovative products, services or works, the most referred to legal text remains the one on *innovative partnerships*, which will be discussed below.

### 3.3. The Innovation partnership

Regulated in Article 31 of the 2014 Directive, innovation partnership is a complex procedure. It is a combination of competitive procedure with negotiation and competitive dialogue procedure, which allows public and private actors to establish partnerships with an ultimate purpose of developing an innovative solution.

Using this procedure, the contract may be awarded to one or more private operators in successive phases with intermediate targets. The selection criteria will be “the candidates’ capacity in the field of research and development and of developing and implementing innovative solutions”.<sup>(16)</sup>

It is a single procedure, in one stage, and it involves both R&D activities and the product/service/work thus developed, by concluding a single contract with reference to maximum costs envisaged at the end of the award procedure.

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(16) Art 31 (6), Dir. 2014/24/EU.

As a method for award, it is a negotiated procedure with a prior call for competition with one or more private partners, which may include successive phases with intermediate targets. After each phase, there is the possibility of continuing with a reduced number of partners or even terminating the procedure when no satisfying outcome is in sight.

In selecting an awardee, the contracting authorities may assess the vendors previous accumulated capacity in R&D and in innovative solutions as part of the selection criteria.

### 3.4. The concepts of PCP and PPI

In literature, two categories of innovative procurement are often discussed, although they are not regulated in the Directives: Pre-Commercial Procurement and Public Procurement for Innovation.<sup>(17)</sup>

#### 3.4.1. Pre-Commercial Procurement (PCP)

According to the European Commission Framework for State aid for research and development and innovation, 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.<sup>(18)</sup>

In other words, PCP covers the purchase by a contracting authority of R&D services (Research and Development) and concerns the phase before commercialization, whether a company wants to create a new product or service or just update an existing one. It thus refers to the procurement of a long-awaited research result, being a matter of direct public R&D investments, without great involvement in the actual product development phase. It does not involve the purchase of many units of a (non-existing) product, and no buyer of such a product is therefore involved in the procurement.<sup>(19)</sup> The purchase of R&D

(17) See for details P. TELLES and L.R.A. BUTLER, "Public procurement award procedures in Directive 2014/24/UE", *op. cit.*, p. 133.

(18) EC Comm., "Framework for State aid for research and development and innovation article 1.3.", 2014/C 198/01.

(19) C. EDQUIST, N.S. VONORTAS, J.M. ZABALA-ITURRIAGAGOITIA and J. EDLER, *Public procurement for innovation*, Cheltenham, Edward Elgar, 2015, p. 9.



can cover fields such as: solution exploration, energy, health, design, prototyping, up to the original development of a limited volume of first products or services in the form of a test series.(20)

One of the biggest challenges of PCP is the allocation of intellectual property rights (IPR) and the way procurers will share with suppliers at market price the benefits and risks related to the IPRs resulting from the R&D.(21) If the result of R&D is a positive one, and a new product or service is being launched on the market, it becomes important that the rules for allocation of IPR have been set up prior to the start of the project. The European Commission has stressed the importance of having clear provisions in the tender documentation and in the call for tenders to deal with property rights: the distribution of rights and obligations between public procurers and R&D providers, including the allocation of IPRs, shall be published in the PCP call for tender documents and the PCP call for tender shall be carried out in a competitive and transparent way in line with the Treaty principles which leads to a price according to market conditions. The public procurers should ensure that the PCP contracts with R&D providers afford financial compensation according to market conditions compared to what would be an exclusive development price for assigning IPR ownership rights to participating R&D providers, in order for the PCP call for tender not to involve State aid.(22)

It was stated that in pre-commercial procurement, the public purchaser does not reserve the R&D results exclusively for its own use: public authorities and industry share risks and benefits of the R&D needed to develop new innovative solutions that outperform those available on the market.(23)

PCP works in conjunction with PPI (Public Procurement of Innovative Solutions), but PCP should not be confused with PPI. PCP focuses on 'development' while PPI focuses on 'deployment'. PPI is used in cases closer to the market or in cases where there is no R&D that is required to address the procurement need or when R&D has already concluded. "Distinguishing between PCP and PPI also allows companies that have developed products through means other than a PCP (e.g. through SME instruments, other grants, own company R&D resources) to still compete for PPI deployment contracts,

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(20) EC Comm. to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "Pre-commercial Procurement: driving innovation to ensure sustainable high quality public services in Europe", SEC(2007) 1668, COM/2007/0799 final.

(21) *Horizon 2020 Work Programme 2014 – 2015*, p. 20, par. 19.

(22) *Ibid.*

(23) EC Comm. to the European Parliament, the Council, the European Economic and Social Committee and The Committee of the Regions Pre-commercial Procurement, "Driving innovation to ensure sustainable high quality public services in Europe", SEC(2007) 1668, p. 3.



avoiding issues of foreclosing of competition and crowding out of other R&D financing sources”.(24)

### 3.4.2. Public Procurement for Innovation

PPI is a procedure that refers to situations where a contracting authority acts as a lead customer (also called first buyer) by obtaining ‘innovative’ solutions that are new arrivals in the market, but not yet available on a large-scale commercial basis. Public procurement for innovation does not primarily aim to develop new products but to promote a policy instrument which will target functions that satisfy human needs.(25)

Public procurement for innovation can be identified on the demand side where participants act as technologically demanding customers that buy the development and testing of new solutions. “This enables European public authorities to modernize public services faster and to create opportunities for companies in Europe to take international leadership in new markets”.(26)

For example, the public procurement for innovations solution uses procurement as a catalyst, in the sense that authorities are putting money into the “development and prototyping of innovations that have a strong societal value and for which there is a clear identified market failure”.(27)

## 4. State Aid for R&D&I

State aid is another important tool for fostering R&D&I. State aid is subjected to tight control, as an important part of the EU’s competition policy, because free and undistorted competition requires that not only private actors adopt a pro-competitive behavior but also that State intervention on the market shall be subject to different means of control. According to European Union law, it is illegal for Member States to give financial help to some undertakings and not to others in a way which would distort fair competition. This help is deemed to be State aid, and the rules barring it are enforced by the European Commission and national courts. Article 107 of TFEU states that “any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favoring certain undertakings or the production of certain goods shall, in so far as it

(24) EC, “Smart Specialization Platform Pre-commercial procurement & public procurement of innovative solutions”.

(25) C. EDQUIST, N.S. VONORTAS, J.M. ZABALA-ITURRIAGAGOITIA and J. EDLER, *Public procurement for innovation*, *op. cit.*, p. 7.

(26) EC, “Digital Single Market, Pre-Commercial Procurement”.

(27) *Final Report Feasibility study on future EU support to public procurement of innovative solutions: Obtaining Evidence for a Full Scheme [Contract Notice 2010/S 103-155769]*.

affects trade between the Member States, be incompatible with the internal market”.

Depending on the Community applicable legal basis, State aid is classified as either: (a) aid for which notification is required; (b) aid exempted from notification; (c) *de minimis* aid.

The need to notify an aid measure is determined by reporting the maximum amount of aid that Member States intend to grant under the thresholds established under Regulation (EU) No. 651/2014 (GBER) which declares certain categories of aid compatible with the common market in application of Articles 107 and 108 TFEU.

In the case of notified aid, the Commission shall examine the notification as soon as it has been received. If the information provided is incomplete, the Commission requests additional information. Within two months of receipt of the notification, the Commission shall take one of the following decisions: there is no aid within the meaning of the EU rules, and the measure may be implemented; the aid is compatible with EU rules, because its positive effects outweigh distortions of competition, and may be implemented; serious doubts remain as to the compatibility of the notified measure with EU State aid rules, prompting the Commission to open an in-depth investigation. In this instance, the measure may not be implemented until the investigation is concluded.(28)

Under the *formal investigation procedure*, the European Commission will assess the compatibility of the aid measure with Community State aid rules. The formal investigation procedure shall be closed by means of a decision as follows:(29) positive decision: where the measure is no aid or the aid is compatible with the Internal Market; conditional decision: the measure is found compatible, but its implementation is subject to the conditions stated in the decision; negative decision: the measure is incompatible and cannot be implemented. The Commission in principle orders the Member State to recover aid that has already been paid out from the beneficiaries.(30)

In the case of unlawful aid, the Commission may initiate its own investigation or commence an investigation following a complaint from the concerned persons.

Aid that complies with the conditions set out in GBER is compatible with the Internal Market and there is no need for notification or any authorization

(28) Art. 4 of the Council Regul. (EU) No. 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 (Text with EEA relevance).

(29) Art. 9 of the Council Regul. (EU) No. 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 (Text with EEA relevance).

(30) EC, “State Aid Procedures”.

from the European Commission. In this case a simple information notice is sufficient.(31)

In the case of *de minimis* aid, – whose total amount granted per Member State to a single undertaking shall not exceed € 200.000 over a period of three fiscal years – there is no obligation to notify the European Commission or the obligation to inform the Community forum after the implementation of such a measure. The procedural rules on *de minimis* aid are exclusively set at the level of the Member State.(32)

Given the considerable amount of finance needed for research and development projects, the Commission has adopted a favorable view of State Aid for R&D since 1986 when the first *Framework* on the matter was adopted.(33) Ever since, the State Aid package entered a modernization process.(34) The current *Framework for State Aid for R&D&I*(35) has as an objective of promoting the faster modernization of public services by supporting the potential buyers of innovative solutions. The State Aid Framework for R&D&I sets out the grounds for granting State aid to companies that will carry out R&D&I activities.

State aid for R&D&I shall ensure that innovative ideas can be turned into products and services that create growth and jobs. Aid for R&D&I will be justified on the basis of Articles 107(3)(b)(36) and 107(3)(c)(37) of the Treaty, according to which State aid for R&D&I may be considered by the Commission compatible with the Internal Market, when it promotes the execution of an important project of common European interest or when it supports the development of certain economic activities, with the condition that the competition is not distorted contrary to the common interest.

(31) See GBER, Annex II.

(32) EC, Commission Regul. (EU) No. 1407/2013 of 18 December 2013 on the application of Art. 107 and 108 of the TFEU to *de minimis* aid, recital 1.

(33) EC, “Community framework for State aid for Research and Development”, *OJEC*, C 83:2 of 11 April 1986.

(34) The role of research and development in improving growth, competitiveness and employment was then debated in the Community framework for State aid for research and development, *OJEC*, C 045 of 17 February 1996, pp. 5-16, followed by the framework from 2006 (*OJEC*, C 323 of 30 December 2006) and they were both used for the assessment of aid for research and development and innovation which is notified to the Commission.

(35) Regul. (EU) No. 651/2017 of 17 June 2014 (General Block exemption Regulation – GBER) and the Framework for State aid for research, development and innovation, Com. Comm., C (2014)3282, 21 May 2014.

(36) Art. 107(3)(b) from the Treaty, “The following may be considered to be compatible with the internal market aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State”.

(37) Art. 107(3)(c) from the Treaty, “The following may be considered to be compatible with the internal market aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest”.

R&D that can be financed by State aid with no notification to the Commission is included in the new General Block Exemption Regulation (GBER).<sup>(38)</sup> GBER exempts some categories of State aid from notification and plays an essential role given the fact that it expands the scope of measures that no longer need to be notified to the Commission for prior approval. R&D is among the exempted areas under certain conditions, so granting State aid for R&D&I does not fall under the remit of article 107 from the Treaty when State aid targets non-economic activities.<sup>(39)</sup> The current rules involve a greater flexibility because it expands the categories of aid allowed in this field.

GBER lays down in section 4 the rules for granting State aid for R&D&I by emphasizing the condition that must be fulfilled in order to exempt the aid given for research and development from the notification requirement imposed by the Article 108(3) of the Treaty. So, if the aid is intended for research and development projects (Art. 25) or if it is an investment aid for research infrastructures (Article 26), aid for innovation clusters (Art. 27), innovation aid for SMEs (Art. 28), start-up aid for small and innovative enterprises (Art 22-5), aid for process and organizational innovation (Art. 29), or if it is an aid for research and development in the fishery and aquaculture sector (Art. 30), then it shall be considered compatible with the Internal Market within the meaning of Article 107(3) of the Treaty.<sup>(40)</sup>

RDI financing can fall outside State aid rules in its entirety if the economic use of a research infrastructure is purely ancillary, meaning that where an infrastructure is used for both economic and non-economic activities, the funding through State resources of the costs linked to the non-economic activities of the infrastructure does not constitute State aid. The same will be the conclusion where the infrastructure is used almost exclusively for a non-economic activity, or for an economic activity which is directly related to and necessary for the operation of the infrastructure or intrinsically linked to its main non-economic use, and is limited in scope.<sup>(41)</sup>

(38) Regul. (EU) No. 651/2014 of 17 June 2014, declaring certain categories of aid compatible with the internal market in application of Art. 107 and 108 of the Treaty.

(39) Par. 18 of Comm. Com., "Framework for State aid for research and development and innovation", states that: "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". Further on, par. 19 of the Framework includes "independent R&D for more knowledge and better understanding, including collaborative R&D where the research organisation or research infrastructure engages in effective collaboration" in those activities which Commission considers activities with a non-economic character.

(40) B. VON WENDLAND, "New Rules for State Aid for Research, Development and Innovation: 'Not a Revolution but a Silent Reform'", *EStAL*, 1/2015, p. 25.

(41) Recital, 49 GBER 2014, par. 20, RDI Framework 2014.

The regulation has adopted these special detailed provisions in new areas such as investment aid for research infrastructures, aid for innovation clusters, innovation aid for SMEs, aid for process and organizational innovation and aid for research and development in the fishery and aquaculture sector to ease the assessment by the Commission when analyzing the compatibility of such measures with the Internal Market. Finally, given the importance of granting State aid for R&D&I, the current GBER has doubled the notification thresholds for research and development projects from the previous one.<sup>(42)</sup>

### ***5. Public Procurement for Innovation vs State Aid for Innovation***

The link between State aid and procurement is clearly stated in the Commission's Communication – Framework for State aid for research and development and innovation,<sup>(43)</sup> which lays down the principles applicable to State aid granted to undertakings carrying out R&D&I, defines pre-commercial procurement and R&D projects, and points out the conditions to fulfill for the ongoing PCPs and PPI not to involve granting of illegal State aid.

In this section, we will compare the use of public procurement and State aid for fostering innovation, advantages and challenges for each legal tool. The comparison will look at the procedure of awarding/granting financing and at data regarding the use of the two mechanisms.

As to the procedure, the following conclusions may be drawn:

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(42) Art. 4(1) from Regul. (EU) No. 651/2014: this Regulation shall not apply to aid which exceeds the following thresholds: (i) for aid for research and development: (i) if the project is predominantly fundamental research: EUR 40 millions per undertaking, per project; that is the case where more than half of the eligible costs of the project are incurred through activities which fall within the category of fundamental research; (ii) if the project is predominantly industrial research: €20 millions per undertaking, per project; that is the case where more than half of the eligible costs of the project are incurred through activities which fall within the category of industrial research or within the categories of industrial research and fundamental research taken together; (iii) if the project is predominantly experimental development: €15 millions per undertaking, per project; that is the case where more than half of the eligible costs of the project are incurred through activities which fall within the category of experimental development; (iv) if the project is a Eureka project or is implemented by a Joint Undertaking established on the basis of Article 185 or of Article 187 of the Treaty, the amounts referred to in points (i) to (iii) are doubled; (v) if the aid for research and development projects is granted in the form of repayable advances which, in the absence of an accepted methodology to calculate their gross grant equivalent, are expressed as a percentage of the eligible costs and the measure provides that in case of a successful outcome of the project, as defined on the basis of a reasonable and prudent hypothesis, the advances will be repaid with an interest rate at least equal to the discount rate applicable at the time of grant, the amounts referred to in points (i) to (iv) are increased by 50%; (vi) aid for feasibility studies in preparation for research activities: €7,5 millions per study.

(43) 2014/C 198/01.

- Public procurement for innovation is harder to compare to State aid because it regards the purchase of final products/services and not only the process of developing such products and services. Pre-commercial procurement, on the other hand, is easier to compare because it can finance just the R&D activities without the purchase of the final product. However, the specificity of State aid when requiring results is less astute than in the case of a public procurements procedure, which identifies with more precision the end results of the R&D activities.
- The procedure for awarding public contracts takes as long as 108 days (average) based on an estimate of the European Commission from 2011,(44) while the time for granting State aid that is notified to the Commission is 6 months on average and can reach 20 months if a formal investigation is opened.(45)
- PCP and (less so) PPI can be assessed against their interaction with State aid. More precisely, the problem that has arisen in practice about PCP, for example, was that these procedures had to focus on showing the best solution for special needs of contracting authorities, but without getting to unilateral State aid. Because in PCP the contracting authorities do not keep the R&D results exclusively for their use, pre-commercial procurement must be understood as an approach to procuring R&D services/products, by sharing the risks and benefits with the supplier in a manner that will not constitute State aid.

Nevertheless, PCP and PPI have their advantages: if undertakings received from a contracting authority include the right to spend money on research, innovation and development of new technologies, the risk of investing in R&D is reduced, from the point of view of the contracting authority. The resort to PCP and PPI practically improves the quality of the public service offered to the citizens of Europe through the deployment of innovative goods and services.

When there is a constant disparity between risk – benefit sharing, and especially when the price paid for the R&D&I product is higher than market price, there is the risk of confronting State aid that will normally have to be notified to the Commission, as required by the Treaty.

- When looking at the rate of R&D financing through the use of the two mechanisms, we realize that the share of public procurement for innovation and that of State aid for innovation is difficult to compare.

(44) Study prepared for the EC, “Public procurement in Europe. Cost and effectiveness”.

(45) EU Comm., “State aid: Commission adopts Best Practices Code and Simplified Procedure to accelerate State aid decisions – frequently asked questions”, MEMO /09/208, Brussels, 29 April 2009.

Public expenditure on research and development and innovation is a key factor for the EU's efforts in reaching its Europe 2020 strategy. Accordingly, the EU hopes to spend 3% of gross domestic product (GDP) on R&D activities, by 2020, which would create 3.7 million jobs and increase annual GDP by close to €800 billion by 2025. The percentage of R&D expenditure by source of funding shows for instance that more than half (55.3 %) of the total expenditure in R&D field in 2014 around EU came from business enterprises, with only one third (32.3%) funded by government, and a further 10.0 % from abroad (foreign funds).(46) R&D expenditure in the EU reached 2.04% of GDP in 2014, up from 1.77% in 2007.(47)

Public procurement stands for an estimated 16% of the European Union's GDP,(48) and according to a Commission report, around one in twenty companies have been involved in the Public Procurement of Innovative Solutions (data for 2011),(49) and about four in ten companies (38%) that have won a public procurement contract included innovations as part of the winning bid (data for 2012-2015).(50) In 2012 according to European Commission a quarter (24%) of public procurement interactions included the possibility of selling an innovation to the government, whilst in 2015 more than one third (38%) say they included innovations as part of a public procurement that they won.(51) As to the 'innovation' content of European procurement actions, 2006-2010, in percentage of actions, the following table is to be mentioned:

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(46) Eurostat, R&D expenditure.

(47) Eurostat Statistics, Europe 2020 indicators – R&D and innovation.

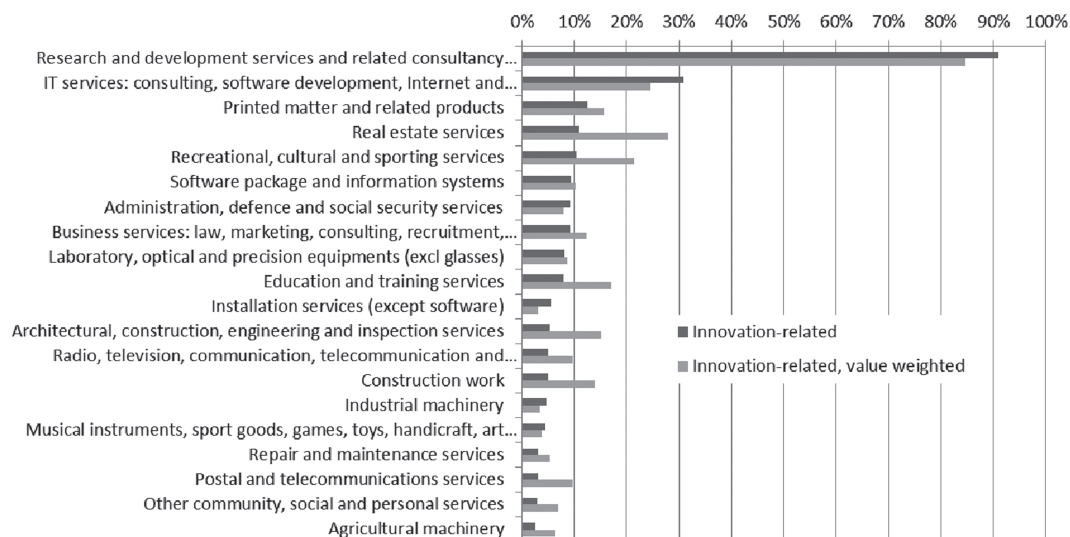
(48) EU Comm. policy, "Accessing markets, Public procurement".

(49) EU Comm., "State of the Innovation Union 2011", COM/2011/0849 final.

(50) EU Comm., Flash Eurobarometer 415 Innobarometer 2015 – The Innovation Trends At EU Enterprises.

(51) Flash Eurobarometer 343, Innovation in the Public Sector: its Perception in and Impact on Business, 2015 – The Innovation Trends at EU Enterprises.

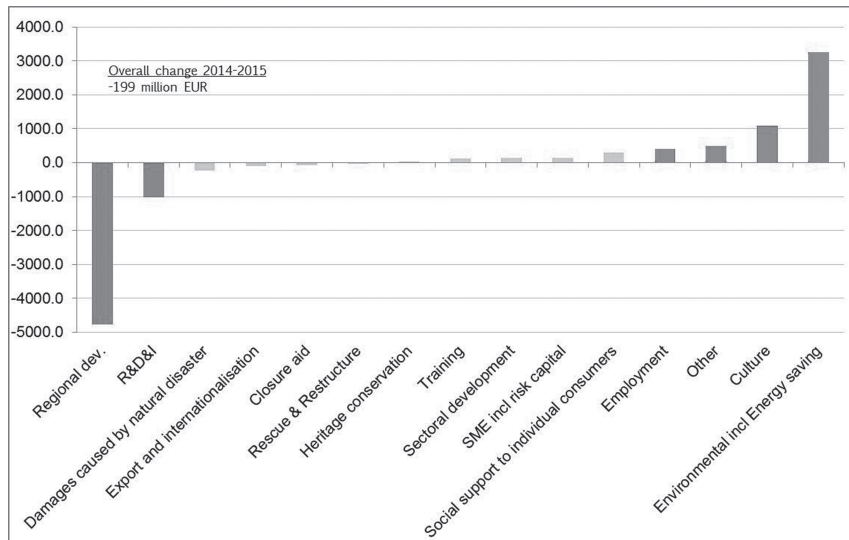




\*Source: OECD analysis of TED data.

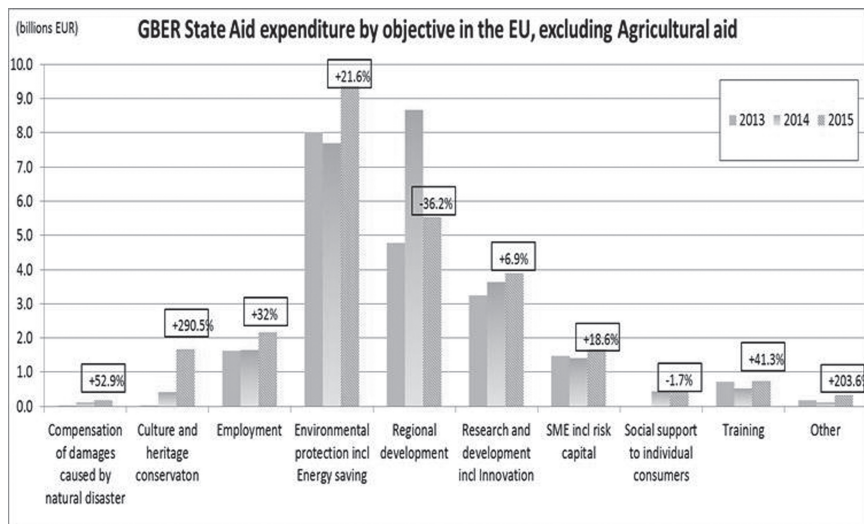
Regarding State aid, the 2016 State Aid Scoreboard from the Commission<sup>(52)</sup> reveals that aid expenditure made by Member States before 2016 which falls under the scope of Article 107(1) TFEU was around €98 billion, standing for 0.67% of EU GDP.

(52) State Aid Scoreboard 2016.



\*Source: State Aid Scoreboard 2016

The new General Block Exemption Regulation (GBER) which tried to simplify the procedure of granting State aid had a certain impact in State aid for R&D&I, by increasing the not-notified State aid (GBER exempted) spending for this kind of activities.



\*Source: State Aid Scoreboard 2016

It is very complicated to actually compare the share of the two instruments in promoting innovation, as they both involve a certain degree of approximation. The almost 4 billion euros (excluding agriculture!) from GBER adds up to the 98 million that falls under the notification procedure requirements. In public procurement, only by approximating the share of innovative procurement starting from the 16% from the GDP (which was in 2016 16.5 trillion euros) we can conclude roughly that public procurement is worth 2.64 trillion euros and procurement for innovation is a portion of that. How big of a portion is hard to estimate, as all the studies are looking at the percentage of companies that included innovation in their bids, and not the actual worth of such procurements.

- Transparency: procurement for R&D&I must observe the principles from the Treaty and from the 2014 Directives: transparency, value for money, non-discrimination, equal treatment, mutual recognition, proportionality.<sup>(53)</sup> State aid granted for R&D&I should in theory comply with these principles but for example the transparency requirement is specific to the State aid *control*, not to the procedure of granting the State aid, which is conducted between initiator and deciding authorities and away from the public eye.<sup>(54)</sup> Even considering that since July 2016, the transparency requirement has entered into force for State aid as well, and became a principle of State aid procedure on the basis of Article 9 and annex III of GBER,<sup>(55)</sup> the transparency is not similar to the one imposed to procurement procedures. In public procurement procedures transparency is present in all phases of the awarding procedure, beginning with the preliminary market consultations and finalized with the conclusion of the contract.<sup>(56)</sup> The goal of the transparency requirement in granting State aid is to promote a higher responsibility of granting authorities and to minimize uncertainties on the market, whilst the purpose of the transparency in public procurement is linked to undermining corruption, and to promoting the efficient spending of public money.<sup>(57)</sup>
- The goals of public procurement for R&D&I and of State aid for the same activities reveal a long-term different perspective. Public procurement for R&D&I aims to bring beneficial effects on the demand side and focuses on the best allocation of public funds. In public procurement for

(53) Recital 1, Dir. 2014/24/EU.

(54) Complementary information on all authorized State aid in the EU, including information in relation to the transparency requirement, can be found online on the State aid Transparency public search page, which gives access to State aid individual award data provided by Member States.

(55) EU Comm., State aid control.

(56) Art. 40, Dir. 2014/24/EU.

(57) Transparency and public procurement, *Supplement to the 2011 Annual Statistical Report on United Nations Procurement*.

innovation the behavior of the supply side is primarily in the background rather than the foreground. Public procurement for innovation focuses on the way authorities spend public money when buying innovative goods or services. On the other hand, State aid may be compatible with the Internal Market only where there has been a market failure, so that the Commission is entitled to refuse to authorize the aid, when it considers the State intervention is not necessary in the public market.(58)

- The hypotheses that justify State aid and public procurement for R&D&I are very different. The most common justification of granting State aid for R&D&I is the need of the State to correct market failures, by enhancing competitiveness. However, granting State aid does not exclusively presuppose the existence of market failures: it is also applicable in situations when although the outcome is efficient, the delays make an intervention of State aid far more satisfactory.(59) State Aid for R&D&I has a highest goal of encouraging companies to undertake more research than they would otherwise take on under other market conditions. In reverse, State aid for R&D&I may distort competition (for example by reducing the rival companies' possibilities to invest or by enabling the beneficiary to engage in exclusionary practices whilst other competitors that did not receive aid are excluded from the market). Potentially negative side effects must then be avoided when granting State aid for R&D&I. Theoretically, Article 33 from the Framework for State aid for research and development and innovation,(60) explains how to avoid State aid in public R&D procurement.

Public procurement as an instrument for innovation can also be justified by market failure, but usually on the supply side, while its main justification

(58) For further discussions on the structure and the goals of State Aid, see C. QUIGLEY, *European State Aid Law and Policy*, 3rd ed., Oxford, Hart Publ., 2015.

(59) Regul. (EU) No. 651/2014, aforesaid.

(60) Art. 33, "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 29, 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 nonexclusive licenses, under market conditions".

remains helping public authorities to achieve more efficiency, effectiveness and performance of the public sector.

The impact of procurement of R&D is not that big when it's done individually and not by a central purchasing body or through collaborative procurement. While State aid can reach many companies at the same time and foster innovation by financing research and development, the power of contracting authorities to influence the market by individual or even bundled procurement is reduced. However, procurement for innovation can be pursued at the initiative of any contracting authority and thus the volumes that it triggers are larger. The initiative of contracting authorities to propose State aid to the central government are rare. Here the initiative comes from the central government or comes attached to EU structural funds financing.

Administrative capacity plays an important role when it comes to procurement for innovation, as many public officials lack the expertise to engage in such procedures confidently. In transposing new directives into national law, Member States should ensure that procurement personnel receive training in the application of the new legislation and that regional contracting authorities do not lack the appropriately prepared staff. On the State aid side, the fact that it is decided at the central level means the need for expertise is concentrated in ministries and thus easier to assemble. State aid measures are designed and approved at the central level, which in theory at least benefits from better expertise when it comes to market assessment, so from this point of view State aid tools seem to be preferable when the State intends to advance its innovative agenda.

The procurement Directives aim to ensure that local authorities can make use of both PPI and PCP. Public procurement for innovation could be financed by local authorities, and less by the State or regional authorities. However, the administrative capacity to conduct such procedures is the other way around. On the other hand, State aid is not that used by local authorities even though it is important to mention that the expression 'through State resources' from the definition on State aid (taken from Art. 107 TFEU) may include (rarely) the use of local authority funds. When speaking of State aid an overwhelming proportion is represented by the regional aid which is allowed especially for ensuring the regional development.<sup>(61)</sup>

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(61) The *Guidelines on regional State aid for 2014-2020* states that: "Regional aid can further be effective in promoting the economic development of disadvantaged areas only if it is awarded to induce additional investment or economic activity in those areas. In certain very limited, well-identified cases, the obstacles that these particular areas may encounter in attracting or maintaining economic activity may be so severe or permanent that investment aid alone may not be sufficient to allow the development of that area. Only in such cases may regional investment aid be supplemented by regional operating aid not linked to an investment". Information from European Union Institutions, Bodies, Offices and Agencies European Commission.

The thresholds for applying the EU Public procurement rules are set out at Article 4 of the Directive 2014/24/EU at around 5 million euros for works and 134,000 euros for services and products. This means that above these thresholds the innovative partnership can be used as a procedure for awarding contracts. However, this does not prevent contracting authorities from including innovation requirements in below threshold procurements. Regarding State aid for R&D&I, we can notice a tendency towards flexibility<sup>(62)</sup> under the GBER, which increased the threshold amounts below which aid is exempted from notification, meaning that it does not have to be notified to the Commission for approval. For example, Member States can now grant aid for experimental development of up to €15 million per project and per beneficiary without prior Commission approval, as compared to €7.5 million under the previous rules. Moreover, the scope of aid measures for R&D&I projects that can be exempted from notification under the GBER has also been widened. It now extends to pilot projects and prototypes, innovation clusters and aid for process and organizational innovation.<sup>(63)</sup>

When procuring R&D&I products or services contracting authorities may encounter a number of specific and inherent obstacles. For instance, technological risks may arise in all stages of the procurement process, when the suppliers are not able to find in practice the innovative solution as presented in the bid package. This might happen when choosing the improper technology or when the chosen technology even is suitable in theory, it does not match standards in practice.

On the other hand, authorities considering granting State aid measures for R&D&I must define their purpose and the aim they pursue, provided that they identify, from the very beginning of the procedure, the outcome of the measures adopted in R&D&I field.

In both public procurement for innovation and the procedure of granting State aid for R&D&I an important role is given to control. State aid control aims at pursuing the EU's joint interest and its rationale relates to distortions of competition through State subsidies to private or public companies that are in active or potential competition with other companies.<sup>(64)</sup>

The relationship between public procurement and State aid control rules has been controversial for some time. The underlying idea is that compliance with

(62) Another example of flexibility is the new rule of ancillary economic activities Framework, Cf. B. von WENDLAND, "New Rules for State Aid for Research, Development and Innovation: 'Not a Revolution but a Silent Reform'", cit., p. 20.

(63) European Commission Press Release Brussels, "State aid: Commission adopts new rules facilitating public support for research, development and innovation", 21 May 2014.

(64) J. HAUCAP and U. SCHWALBE, *Economic Principles of State Aid Control*, Düsseldorf, Heinrich-Heine-Universität, Department of Economics, Düsseldorf Institute for Competition Economics (DICE), 2011.

procurement rules of the awarding procedure excludes the element of ‘undue economic advantage’ (or, even further, the prerequisite of ‘selectivity’) – consequently eliminating all risks of disguised granting of State aid by means of public contracts.(65)

In any innovative procurement procedure, we should mention the fact that small firms and not-for-profit organizations are particularly disadvantaged. That is why it would be better if contracting authorities establish better communication channels with the economic operators. It is also important that SMEs, with their less extensive networks, should be included into procurement procedures aiming to reach R&D&I. In addition, compared to State aid, procurement of innovation may be beneficial for SMEs to have an access to business opportunities and resources, which they might have difficulty in accessing through State aid. State aid for innovation for SMEs remains underused even though the *Framework for State Aid for R&D&I* provides, with regard to small and medium-sized enterprises, that 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. Moreover, in order to encourage large enterprises to collaborate with SMEs in process and organizational innovation activities, the costs incurred by both SMEs and large enterprises for such activities may also be supported.(66)

## 6. Final Considerations

This paper can be useful in offering a perspective on the legal and practical issues involved in the use of procurement and State aid in the area of research, development and innovation, although it just touches lightly on the issues that may be raised in relation to the two legal approaches. There is no clear-cut conclusion on which of the two models of State intervention in the economy is more prone to bring about innovation. In terms of quantities, the quotas of public procurement and State aid for innovation in the EU GDP are difficult to compare without further economic estimates.

The big expectations from public procurement for R&D&I as established in 2020 Agenda seem attainable through the use of the two instruments analysed here: public procurement and State aid. However, public procurement, as part of the EU demand-oriented innovation policy, needs new forms of coordination and governance, reconciling at least three different logics: the efficiency logic

(65) A. SANCHEZ-GRAELLS, “Public Procurement and State Aid: Reopening the Debate?”, *PPLR*, forthcoming.

(66) EU Comm., “Framework for State aid for research and development and innovation”, 2014/C 198/01, Art. 12, d.



(for the buyer, value for money), the broader economic logic (direct effect on producers, value chains, spillovers to private demand) and the sectoral policy logic (to deliver goods / better public service / societal effects).(67) State aid needs to be more transparent and administrative capacity at the local level needs to be strengthened in order for State aid rules to be accommodated effectively.

Establishing better communication channels with the economic operators should be a priority for both approaches. It is important that SMEs, with their less extensive networks, should be included in communications by public agencies so that the SMEs' innovative capabilities can be utilized. Market consultations before launching a procurement procedure for innovation as well as innovation fairs where public procurers meet possible tenderers and discuss a possible way of innovating existing products and services should be organized more often. State aid is sometimes designed at the initiative of companies in the market, so the link with the needs of the market is already present.

The contractual regime in awarding procedures should also be optimized to encourage innovation. The parties should agree from the very beginning on the rights to intellectual property by deciding which party has the right to further use the innovative product in other markets. The innovative products or services that are developed as a result of State aid remain with their developers, while as in procurement for innovation there is the option to buy them at the end. As stated in the 2011 updated Report from The Commission *State Aid Scoreboard Report on State aid contribution to Europe 2020 Strategy*, State aid can contribute to generate more R&D&I only if it addresses well-identified market failures, which prevent markets from reaching optimal R&D&I levels, and if it is well designed by ensuring that distortions of competition and trade are minimized and public spending efficiency is maximized.(68)

(67) EU, Directorate-General for Research European Research Area, Expert Group Report on *Risk management in the procurement of innovation Concepts and empirical evidence in the European Union*, Brussels, 2010, p. 19.

(68) EU Comm., "A European Agenda For The Collaborative Economy", COM/2011/0356 final, available at [eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2016:356:FIN](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2016:356:FIN).