III

(Preparatory acts)

EUROPEAN ECONOMIC AND SOCIAL COMMITTEE

503RD EESC PLENARY SESSION, 10 AND 11 DECEMBER 2014

Opinion of the European Economic and Social Committee on the communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — Research and innovation as sources of renewed growth

(COM(2014) 339 final — SWD(2014) 181 final)

(2015/C 230/09)

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On 10 June 2014, the European Commission decided to consult the European Economic and Social Committee, under Article 304 of the Treaty on the Functioning of the European Union, on the

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — Research and innovation as sources of renewed growth

COM(2014) 339 final — SWD(2014) 181 final.

The Section for the Single Market, Production and Consumption, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 19 November 2014.

At its 503rd plenary session on 10 and 11 December 2014 (meeting of 11 December 2014), the Committee unanimously adopted the following opinion:

1. Summary and recommendations

1.1. The Committee strongly supports the objective set by the Commission, as well as the proposed measures to achieve it. However, their implementation largely falls within the remit of the Member States.

1.2. In view of the Commission's limited ability to leverage Member State policy in this area, the Committee appeals to the goodwill, constructive attitude and decision-making power of all the relevant players to prioritise this urgent but difficult task, and to bring it to fruition using a persistent approach that does not result in additional red tape.

1.3. In the Committee's view, the following tasks should be given priority:

— build and strengthen excellent R & D capacity and innovation centres, drawing on the experience of the most successful examples so far; align university courses, facilities and involvement with this objective,

— provide adequate and sustained support for basic research as the seed of future innovations,

— foster a social climate that promotes, welcomes and rewards innovation, and identify, evaluate, and, where appropriate, mitigate or entirely remove administrative, economic and social obstacles that stand in its way,

— provide sufficient support and protection for SMEs, start-ups and enterprises in the social economy as a key pillar of any effective innovation policy,

— complete the European Research and Innovation Area, and

— create an attractive and stable European labour market for researchers, and at last effectively tackle the specific social disadvantages of mobility.

1.4. For more detailed remarks, the Committee refers to the sections which follow.

2. **Gist of the Commission communication (much abbreviated)**

2.1. This communication relates to efforts to achieve an appreciable increase in the potential of research and innovation (R&I)'which is a key driver of renewed growth. This is to be made possible by raising the quality of investment within the Member States' growth-friendly fiscal consolidation strategies.

2.2. To this end, the Commission proposes that:

(i) In line with the concept of growth friendly fiscal consolidation, Member States need to prioritise growth-enhancing expenditure, notably on R&I.

(ii) Those investments need to go hand-in-hand with reforms to increase the quality, efficiency and impact of public expenditure and business investment in R&I.

(iii) In doing so, Member States should focus on three main axes of reform:

— the quality of strategy development and the policymaking process,

— the quality of programmes and funding mechanisms,

— the quality of R&I performing institutions.

2.3. The Commission intends to support Member States in this, drawing on the experience gained under the Innovation Union flagship initiative ([1]) and the European Research Area.

2.4. Moreover, it is imperative that the innovation ecosystem in the broadest sense be strengthened, with the right conditions put in place for European businesses to this end.

2.5. Clear progress has been made since the launch of the Innovation Union, but further efforts are needed to:

— deepen the single market,

— facilitate and diversify access to finance,

— strengthen the innovation capacity of the public sector,

— create resilient jobs in knowledge-intensive activities,

— develop a human resource base equipped with innovation skills,

— foster frontier research,

([1]) COM(2010) 546 final.

— strengthen the external dimension of R&I policy, and

— embed science and innovation more strongly in society.

2.6. The Commission invites the Council to discuss this matter on the basis of its communication and proposals.

3. **General comments**

3.1. Bound up with the historical process of the Enlightenment ([2]), research and innovation have within a short period of time brought humanity the greatest increase in knowledge, health, technical skills and prosperity that has ever been achieved; they are the engine of future economic growth and social progress.

3.2. This is also recognised by countries outside Europe, which is why there is increasing international competition for knowledge and innovation. In Asia, especially, major scientific and technological centres are now being built up, and research spending and innovation capacity are rapidly being further developed.

3.3. The Committee strongly supports the aim declared in the communication and the measures proposed to this end, which are in line with the Committee's constantly reiterated recommendations ([3]).

3.4. All the more pressing, therefore, is the question of the implementation of the proposed measures and the resources available to this end. As the Commission observes, the relevant problems and tasks largely fall within the remit of the Member States.

3.5. The resources of the **Horizon 2020** programme are the main tool available to the Commission for guiding the financing and direction of the Member States' R&I policy. As the Committee has repeatedly pointed out, these resources can only provide limited leverage.

3.6. The Committee therefore appeals to the goodwill, constructive attitude and decision-making power of all the relevant players to prioritise this urgent task, and to bring it to fruition using a persistent and gradual approach that does not result in additional red tape.

3.7. To this end, all Europe's Member States need help moving forward. More specifically, the aim is to build and strengthen modern and excellent R & D capacity and innovation centres in all Member States — especially those that are less advanced in this area — and to align university courses and facilities with this objective. Europe needs world-class universities, which is why universities and research centres as a source of innovators and ideas should be given priority for support.

3.8. Above all, this will require corresponding structural reforms (including international quality assessment), and that money from the **EU's Structural Funds and Cohesion Fund** be allocated and used for these tasks in a targeted manner; the Commission will have to require and monitor this. Doing so will unleash synergies and narrow the innovation gap within Europe.

3.9. Where there is no modern and effective system of science and research, it will have to be built up by drawing on shared experience and learning from best practice. This will mean calling on excellent and experienced providers and giving them the necessary scope, responsibility and guaranteed financing. The concept of '**twinning for excellence'**, in which existing clusters of excellence act as partners, can play a useful role here.

3.9.1. However, the Committee cautions against excessive standardisation and the accompanying loss of systemic competition, which is the essential breeding ground for future innovations. Accordingly, it also cautions against overly formalised assessment criteria. On the other hand, international peer review is the best available, and essential, tool for assessing and safeguarding the required quality of R & D across Europe, despite potential weaknesses in assessing revolutionary ideas.

([2]) *Science as Public Culture* — Jan Golinski — Cambridge University Press.
([3]) See for example OJ C 132, 3.5.2011, p. 39; OJ C 181, 21.6.2012, p. 111; OJ C 44, 15.2.2013, p. 88; OJ C 76, 14.3.2013, p. 31; OJ C 76, 14.3.2013, p. 43; OJ C 341, 21.11.2013, p. 35; OJ C 67, 6.3.2014, p. 132.

3.10. There is sometimes an extremely long time lag between R&I investment and the point at which the resulting innovations succeed, making it especially difficult to anticipate and identify a causal link.

3.11. However, it has long been apparent that a country's economic performance and prosperity, where it is not primarily based on access to natural resources, correlates strongly with its investment in R&I and its resulting innovative capacity.

3.12. It follows that Europe requires an efficient and open common research area attracting the best talent from around the world, towards which its immigration policy is geared, and in which the constituent national science systems cooperate more effectively at European level and are more closely linked externally with the most successful international institutions.

3.13. Similarly, Europe needs policy measures as well as a social climate that promotes, welcomes and rewards innovation and puts in place the conditions for committed entrepreneurship. This will require, among other things, the identification, evaluation and, where appropriate, mitigation or removal of administrative, economic and social obstacles, thus improving and strengthening the innovation ecosystem.

3.14. This will require a research and innovation policy in the EU Member States that interlocks national activities with European and international initiatives and fosters collaboration between policy-makers, science, business and civil society, including at European level, while also being interlinked with local and regional initiatives.

3.15. For, alongside publicly funded R&I, it is above all businesses that themselves invest substantially in R & D that succeed on the market with new products, services and processes. These businesses — including enterprises in the social economy — make a substantial contribution to securing Europe's position on global markets through innovation, and to creating and retaining jobs in Europe.

3.16. Sadly, this is not true of all large companies. One reason may be a systematic aversion on the part of management to the market risks ([4]) tied up with what are known as disruptive technologies. The aeroplane was not invented and developed by the shipping or railway industries, nor were the innovations developed by Microsoft and Apple the work of the electrical goods and electronics companies that previously dominated the market.

3.17. That is why new ideas often come from entrepreneurial figures and inter-disciplinary teams, and even from outsiders, or are brought to the market by them. SMEs, start-ups and enterprises in the social economy thus have a particularly important role to play, which means that promoting and protecting them sufficiently must be a key pillar of any effective innovation policy.

3.18. As already discussed in detail in the opinion on the Innovation Union ([5]), there is also great potential for innovation in the whole spectrum of human interactions and organisations, including enterprises in the social economy. They encompass the entire gamut of scientific, economic and social activities, as discussed in other sections. At the same time, innovations need not only result from systematic R & D, but can also develop from field work and the experience gained there. They include:

— innovative workplaces,

— cooperation between the social partners and representatives of civil society,

— social innovations that meet social needs not adequately addressed by the market or the public sector, and

([4]) See for example Clayton M. Christensen, *The Innovator's Dilemma*, Harper Business.
([5]) OJ C 132, 3.5.2011, p. 39.

— the role of employees as a source of knowledge and ideas.

Once again ([6]), the Committee expressed its support for the Commission's objective of promoting such innovations to the fullest extent.

4. **Specific comments of the Committee**

4.1. The Committee reiterates that, while there are strong reciprocal links between research and innovation, the two display different characteristics and flourish under different working conditions ([7]). The key is to recognise these different working conditions on their own terms, but also to interlink them as much as possible.

4.2. In terms of the use of public funds — i.e. revenues from taxes on individuals and businesses that are allocated through democratic processes — the Committee recently ([8]) argued that any support from the Commission (which, after all, comes from public funds) should focus on those tasks which are less likely to be supported using private funds. Typical reasons for this include:

— that there is a significant development risk involved, which contrasts with the considerable potential benefits should the initiative succeed,

— that the ensuing costs are very high and can only be met by pooling multiple public sources,

— that the period of time until practical benefits emerge is too long,

— that it involves cross-cutting or key technologies (e.g. new materials), and

— that the result cannot readily be marketed, but there is a general social or environmental need.

4.3. The Committee summarises its position on support for research and development as follows. This should:

— adequately fund fundamental research — both to extend and deepen our knowledge of nature, and as a breeding ground for new ideas and ground-breaking innovations. This should by no means be restricted to the part of the Horizon 2020 programme supervised by the ERC, but should be emphasised in all other parts of the programme as well,

— respect and protect scientific and research freedom,

— apply excellence as the supreme criterion for awarding research contracts, as has been the case so far,

— cooperate across borders and pool capacity,

— create an open and attractive European labour market for researchers — at last effectively tackle or offset the social disadvantages resulting from too many fixed-term contracts and cross-border mobility,

— gear the framework and administrative rules towards the needs of a strong science sector,

— ensure optimal circulation, access to, and transfer of scientific knowledge ([9]), and

— give the European Research Area a stronger international dimension.

4.3.1. The Committee reiterates its calls ([10]) to at last effectively tackle the social risks and disadvantages to researchers resulting from necessary and desirable cross-border mobility and a lack of stable jobs. It therefore welcomes the Commission's latest initiative (Resaver) ([11]) to facilitate the mobility of researchers in Europe by way of a new, pan-European pension scheme, which is meant to provide researchers with the opportunity to move between Member States without having to worry about whether or not they will be able to keep their pension rights. The Committee considers this a step in the right direction, without being in a position here to judge the suitability of the chosen approach.

([6]) See footnote 3.
([7]) OJ C 218, 11.9.2009, p. 8.
([8]) OJ C 67, 6.3.2014, p. 132.
([9]) See OJ C 218, 11.9.2009, p. 8.
([10]) See OJ C 110, 30.4.2004, p. 3 and again OJ C 76, 14.3.2013, p. 31.
([11]) Commission press release from 1 October 2014.

4.3.2. The Committee does not go over the specific research themes in this opinion, since they were discussed in detail in its opinion on Horizon 2020. Here, too, it repeats that the objectives of Member State programmes need to be sufficiently leveraged.

4.4. The Committee summarises its position on support for innovation as follows. Innovations generally emerge:

— in response to social needs and challenges or to remedy defects — whether technological or social in nature,

— as part of product development or improvement with the aim of enhancing quality or boosting sales,

— as new discoveries in the course of fundamental research, offering a more effective solution to previously identified problems,

— as the result of new ideas, in order to create entirely new possibilities, e.g. for locomotion (the aeroplane), navigation (GPS), or communication and labour-saving (the internet),;

— to meet hitherto unidentified needs, or

— as a tool for, or by-product of, research. This may involve new key technologies, for example. A striking example is the World Wide Web, which was developed by CERN ([12]) — a beacon of European research and research initiatives — to make research data available to the universities and research organisations cooperating with the Geneva-based centre and connect them to the research programme. Unfortunately, its enormous economic and social potential was not recognised and exploited quickly enough within Europe. Even today, this cannot yet be fully gauged.

4.5. Nevertheless, it is often only by setting up new businesses that these ideas can be turned into innovations and innovative products. One of the most important functions of innovation promotion policy is thus to support and facilitate the creation of such new businesses and ensure their survival during the critical first 5-to-10 or so years.

4.6. Although innovations have thus far always benefited human society as a whole, thereby making a decisive contribution to prosperity and competitiveness, they are sometimes confronted with major social and economic obstacles. For the new is often at first perceived as a threat by business, commerce, society and policymakers.

4.7. Innovations can indeed cause economic and social upheaval, displacing individual sectors and businesses, initially destroying jobs or weakening dominant social classes, and only display their productive potential for society at large over the longer term. Examples include the power loom, the introduction of social partnership, genetic engineering, Google, Amazon, and the introduction of technologies for using renewable energy. Moreover, the ability of society and business (amortisation periods) to adapt can be overwhelmed by overly rapid, innovation-driven changes.

4.8. The resulting concern of individual social groups has prompted the Commission to introduce ([13]) the concept of 'responsible research and innovation' ([14]). However, in view of the critical achievements of research and innovation as the engine and foundation of today's living and scientific standards, and as the essential breeding ground for the historical process of the Enlightenment, from which originate the defining thoughts and ideas of human rights and the division of state powers, the Committee considers this concept to be misleading and one-sided. The Committee therefore recommends reflecting on its impact on the value placed by society on research and innovation.

([12]) http://home.web.cern.ch/topics/birth-web
([13]) See, for example www.consider-project.eu.
([14]) See European Commission: *Towards Responsible Research and Innovation in the Information and Communication Technologies and Security Technologies Fields* — ISBN 978-92-79-20404-3.

4.8.1. It goes without saying that research and innovation must conform to ethical principles and the prevailing laws.

4.8.2. However, this requirement applies equally to all other social activities, whether in medicine, business, journalism, lawmaking, politics or the courts, which is why the Committee does not think it is appropriate to establish the concept of responsible conduct exclusively and explicitly in relation to R&I.

4.9. In addition to these more fundamental obstacles, it is also the sheer density of regulations to be complied with — which are, moreover, fragmented within Europe — which poses the most difficulties for innovative business start-ups, coupled with critical funding issues.

4.9.1. The Committee therefore reiterates its recommendation ([15]) that new start-ups below a certain critical size be granted an appropriate exemption period and some leeway. This could be achieved by way of an exemption clause freeing such businesses for this period from most of the otherwise standard administrative rules and requirements of all kinds, so that they can first demonstrate their economic and technical potential.

4.10. As underlined in previous opinions, to which it explicitly refers in connection with further detailed recommendations — on social innovation, for example — the Committee therefore strongly supports the Commission's objective of 'strengthening the broader innovation eco-system and putting in place the right framework conditions to stimulate Europe's companies to innovate'. Specifically, this means identifying and removing obstacles to innovation.

4.10.1. Overly detailed technical requirements and restrictions can also act as a suffocating corset and an obstacle to innovation. This should be taken into consideration, not least with respect to the detailed requirements introduced by the Commission's energy efficiency initiative.

4.10.2. Efforts to this end should contribute to the objective of best ensuring the prosperity, health and safety of citizens and consumers in a sustainable way in future too.

4.10.3. It is also worth examining, in the light of historical examples, whether an overly strict interpretation of the precautionary principle, for example in connection with consumer protection or the development of new medical procedures, may sap the courage to seek new and effective solutions.

4.11. In the Committee's view, despite undeniable European successes in research and development and in many economic sectors, this requires not only completing the single market and the European Research Area, but also analysing the more fundamental reasons why there is a less innovation-friendly climate in Europe than in the USA or in some Asian countries, for example. Why are Google, Microsoft, Facebook and Monsanto not European companies? Or why has Europe not produced a 'better' Google or Monsanto — one that better reflects the public's concerns and has emerged in the sphere of influence of European policy?

4.12. What is needed is a fundamental change in social attitudes so that innovations are not seen primarily as a risk or a threat, but rather as an opportunity for further progress, more jobs and European economic strength and competitiveness, and for shaping the European social model. We need a new and better balance between caution and audacity, between small risks and major dangers, and between regulation and freedom of action.

Brussels, 11 December 2014

The President
of the European Economic and Social Committee
Henri MALOSSE

([15]) OJ C 132, 3.5.2011, p. 39.