Opinion of the European Economic and Social Committee on 'The European Technology Platforms (ETPs) and industrial change' (own-initiative opinion)

(2012/C 299/03)

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On 19 January 2012 the European Economic and Social Committee, acting under Rule 29(2) of its Rules of Procedure, decided to draw up an own-initiative opinion on

European Technology Platforms (ETPs) and industrial change

(own-initiative opinion).

The Consultative Commission on Industrial Change (CCMI), which was responsible for preparing the Committee's work on the subject, adopted its opinion on 11 June 2012.

At its 482nd plenary session, held on 11 and 12 July 2012 (meeting of 11 July), the European Economic and Social Committee adopted the following opinion by 138 votes to 2 with 1 abstention.

1. **Conclusions and recommendations**

1.1 The EESC is aware that anticipating industrial change is a difficult, although necessary, foresight exercise based on a number of different factors that influence those changes. One of the principal drivers of change is Research & Innovation (R&I), and the ETPs are the leading indicators.

1.2 The EESC asks the European Commission (EC) to continue to back the activities of the existing ETPs and improve exchanges both among themselves and with the relevant European institutions.

1.3 The EESC recognises that ETP- related industry sectors have a fundamental position in the value chain: many innovations are dependent on basic processes (manufacturing, processing industries, forestry, robotics) and materials (chemicals, steels …). As such, therefore, process and material innovations have a catalytic effect on European innovation.

1.4 The EESC recognises that ETPs are already tackling societal challenges. They cover an area which has a major impact on society in terms of growth and value-added jobs. ETPs respond to key policy issues (bio-economy, raw materials and resource efficiency, for example).

1.5 ETPs are a clear and concrete example of bottom up approach to the European research and innovation policy involving industry, and other important stakeholders, all along the innovation stages. Horizon2020 needs such an approach.

1.6 The EESC calls for a more effective implementation of the EC regulatory framework simplification process (including participation in EU projects), for increased effort in reducing fragmentation and competition between institutional initiatives, for better coordinated policies and for increased visibility in the future at institutional level, in order to make ETPs more effective.

1.6.1 EESC believes that ETPs are key to boosting the EU "industrial policy". They enjoy strong input and support from industry, one of the key pillars of the EC economy. ETPs are industry-driven, thus ensuring the industrial relevance of their initiatives. Input provided by ETPs not only touches on technology and research needs but also on technology transfer.

1.6.2 With regard to existing examples (ESTEP, PLATEA, and others), trade unions and other relevant stakeholders should be more involved in ETPs, National (NTPs), and Regional Technology Platforms (RTPs) on a permanent cooperative basis so that social and societal issues, which strengthen the impact of respective Strategic Research Agendas (SRA), may be covered.

1.6.3 Difficulties in the involvement of SMEs should be solved through the constant benchmarking with the most successful examples as done by the Joint Undertaking of Fuel Cell and Hydrogen (FCH-JU).

1.7 The related national and regional platforms mirror ETP structure at MS level. Co-ordination and harmonisation of EU, national and regional R&I programmes should be improved by means of closer cooperation with ETPs.

1.8 ETPs can make a major contribution to implement European policies. Specific priorities have been defined to boost innovation in the public and private domains: Resource and Energy Efficiency in Process Industry (SPIRE), Biobased

Industries PPP (Biobased for Growth), European Innovation Partnerships on Water, Raw Materials, Smart Cities (jointly with the SET plan) and EMIRI (Energy Materials Industrial Research Initiative). This enhanced inter-sectorial cooperation and coordination via ETPs will ultimately bring benefits to the European society.

1.9 The EESC calls on the EU institutions to work on improving international cooperation, in order to attract state-of-the-art global expertise, in the interest of EU exploitation and commercialisation.

1.10 Complementary access to Smart Specialisation – Structural Funds at national and regional level for the NTPs should be encouraged and facilitated.

1.11 The solution-provider role of ETPs with regard to societal challenges will gain a higher profile in addressing innovation in addition to research. This is a key to sustaining welfare and wellbeing in Europe.

1.12 The EESC congratulates the ETPs on their role, as a link to demand-side innovation tools which complement R&I actions and accelerate market up-take. ETPs are also key to the deployment of R&I results. The Committee calls for increased use of Coordination Support Actions to drive value chain collaborations.

1.13 Manufacturing processes and the manufacturing-related research & innovation activities are losing their societal appeal for the general public and especially for young people. This is also a consequence of the de-localisation of manufacturing activities outside Europe and, in a vicious circle, leads to further de-localisation. The EESC expects the ETPs to be able to contribute to raising awareness of the importance of various industrial manufacturing processes.

1.14 ETPs may suffer from the decline of EU industry. EU industries are losing their leading worldwide industrial position, they experience a low level of risk-taking and lack of entrepreneurship in comparison to other parts of the world.

1.15 People-centred education, learning & training should be maintained and reinforced within the ETP landscape as strategic elements of the platforms. Close links with corresponding sectorial EU social dialogue Committees and the Employment, Social Policy, Health and Consumer Affairs Council (EPSCO) should therefore be established on a permanent basis.

1.16 ETPs may also have a substantial impact on social and societal issues, particularly on the re-orientation of public education and Vocational Educational Training (VET) systems to the needs of the European industries and manufacturing sectors. A big effort on training and retraining should be made in order to prepare workers able to deal with the new process technologies and products resulting by the research and innovation activities. Only qualified and stable employed people will be able to deal with new high level technologies.

2. **Establishment and history of the ETPs**

2.1 In March 2003, the EU Council called for a strengthening of the ERA by creating ETPs bringing together technological know-how, industry, regulators and financial institutions.

2.2 ETPs were set up as industry-led stakeholder forums with the aim of defining medium- to long-term research and technology objectives and developing road maps. Their aim was to contribute to increasing synergies between different research actors, to define priorities on a number of technological areas achieving EU growth, competitiveness and sustainability.

2.3 The EC supported the development of ETPs as a facilitator. The EC acts today as an observer and is committed to structured dialogue on research priorities. The EC does not own or manage ETPs: they are independent organisations. The EC CORDIS website, the ETP newsletter and the regular ETP leaders' seminars facilitate the flow of communication.

2.4 Some ETPs are loose networks that come together in annual meetings, but others have legal structures with membership fees. All ETPs have brought together stakeholders, reached consensus on a common vision and established an SRA. ETPs are developed through dialogue between industrial and public researchers and national government representatives; they also contribute to creating consensus and to aligning investment efforts more effectively.

2.5 ETPs foster effective PPPs, contributing significantly to the development of the ERA of knowledge for growth. Such PPPs can address technological challenges that could be the key to sustainable development, the improved delivery of public services and the restructuring of traditional industrial sectors.

3. **ETPs and industrial change**

3.1 Industrial change [1] is a continuous process influenced by various different factors such as market trends, organisational, social, societal and structural changes and technical innovation on production processes and products.

3.2 Innovation is also a continuous process, and it is one of the main factors influencing industrial change through a steady transfer of new scientific findings to the real production chain. It is, moreover, the main driver of global competitiveness in the EU manufacturing and service sectors.

3.3 In terms of the innovation process, careful consideration should be given to how scarce financial resources are employed in Europe. The ETPs are already an existing powerful tool and they could be the concrete solution for innovation and deployment of the industrial policy.

[1] EESC Opinion on *Industrial Change: current situation and prospects. An overall approach*, OJ C 010 of 14.01.2004, p. 105–113.

3.4 The nature and the intrinsic content of industrial change is driven mainly by innovation, and ETPs are increasingly the actual physical sites where innovation originates. ETPs are geared towards practical industrial applications that have an impact on production processes, products, work organisation and workplace conditions.

3.5 The European institutions are recommending a balanced participation of all stakeholders in the ETPs. In particular, it would be desirable that EU institutions support by all practicable means SMEs or economic research associates in a corporate form, such as in the knowledge cooperative, in order to allow these very popular European companies to participate actively in the platforms. The costs of platforms represent an obstacle for SMEs and universities to get involved in research work.

3.6 Given the scale and importance of ETPs in the EU context as bodies established on a voluntary basis and open to any interested parties, it is vital to recognise them the role of powerful tools for the implementation of the EU policy.

3.7 The transition to more sustainable manufacturing and service activities in EU and the implementation of the Europe 2020 strategy will be strongly contingent on the real innovation ETPs will be able to deliver in the next decade.

3.8 Real and concrete innovation and industrial changes could be accomplished through the parallel design of innovative processes/products and the needed skills and work organisation for its complete implementation in the manufacturing and services' activities.

3.9 Some ETPs are organised to take into account, from the very beginning, the social aspects of the innovation process and, in their Strategic Research Agendas, introduce activities related to the future needs of human resources, often in close cooperation with the respective EU sector social dialogue committees, with whom they also exchange information.

3.10 Given its make-up and strong links with the main EU sectors, the EESC's CCMI analysed the state of play in the various industries and provided recommendations to the other EU institutions and the MSs by means of this bottom-up, non-bureaucratic process. The aim is to contribute to the implementation of the EU industrial policy and desirable industrial change.

4. **Role of the ETP for Research and Innovation (R&I)**

The EC has developed and implemented a series of initiatives to reinforce the ETPs and industry action and to put in place technology-based policies.

4.1 The Joint Technology Initiatives (JTIs) are a means to implement the Strategic Research Agendas for a limited number of ETPs. In few ETPs, the scale and scope of the objectives are such that the regular instruments of the FP for R&I are not sufficient. Instead, effective implementation requires a dedicated mechanism that secures the necessary leadership and coordination to achieve the research objectives. To meet those needs, the concept of "JTI" has been developed.

4.2 The former Commissioner for Science and Research and high-level representatives of industry met in March 2009 to review progress and discuss priorities for the implementation of new research instruments "the PPPs". Those priorities and instruments have been used for the *Factories of the Future*, *Energy-efficient Buildings* and *Green Cars* initiatives included in the EU Economic Recovery Plan adopted in November 2008.

4.3 The three PPPs represent a powerful means of boosting research efforts in three large industrial sectors - automotive, construction and manufacturing - which have been particularly affected by the economic downturn and where innovation can significantly contribute towards a more green and sustainable economy.

4.4 The SET-Plan, adopted by the EU in 2008, is a first step towards establishing an energy technology policy for EU. It is a decision-making support tool for EU energy policy, with the goal of:

— accelerating knowledge development, technology transfer and uptake;

— maintaining EU industrial leadership on low-carbon energy technologies;

— fostering science for transforming energy technologies to achieve the 2020 Energy and Climate Change goals;

— contributing to the worldwide transition to a low-carbon economy by 2050.

Implementation of the SET-Plan started with the establishment of the European Industrial Initiatives (EIIs) which bring together industry, the research community, the MSs and the EC in risk-sharing PPPs. In parallel, the European Energy Research Alliance (EERA) has been working since 2008 to align the R&D activities of individual research organisations to the needs of the SET-Plan priorities, and to establish a joint Framework Programme at the EU level.

4.5 The EU Lead Market Initiative (LMI) is for supporting actions for six important sectors to lower barriers to bringing new products or services onto the market. The EC, MSs and industry work together to carry out the action plans. The policy instruments deal with regulation, public procurement, standardisation and supporting activities. The LMI addresses the following markets: eHealth, protective textiles, sustainable construction, recycling, bio-based products and renewable energies.

5. **ETPs: SWOT analysis results**

5.1 Taking into account the sheer number of the ETPs nowadays, it is obvious that their deliverance (performance) levels have differed in the past, and they will differ in the future. Thus, the Committee has performed an initial analysis attempting to identify the major general drivers towards excellence (strengths and opportunities) and, even more importantly, the major obstacles (weaknesses and threats).

5.2 *Strengths*

— The ETPs gather together all stakeholders: research centres and universities, industry (big players and SMEs), plant producers, non-profit as well as commercial organisations, associations, public authorities and unions.

— In the platform there is a clear identification of "roles" and hierarchy within the sector. The stakeholders share a common vision, roadmap and implementation plan.

— ETPs enjoy strong input and support from industry, one of the key pillars of the EC economy. ETPs are industry-driven, thus ensuring the industrial relevance of their initiatives. Input provided by ETPs not only touches on technology and research needs but also on technology transfer.

— ETPs have a lean management structure and are flexible, mobilising "forces" and pooling resources.

— ETP-related industry sectors have a fundamental position in the value chain: many innovations are dependent on basic processes (manufacturing, processing industries, forestry and robotics, for instance) and materials (chemicals and steels). As such, therefore, process and material innovations have a catalytic effect on EU innovation.

— ETPs are already tackling societal challenges. They cover an area which has a major impact on society in terms of growth and value-added jobs. ETPs respond to key policy issues (bio-economy, raw materials and resource efficiency, for example).

— Some ETPs have National TPs and Regional TPs in place, in all EU countries.

— Education is addressed as strategic element of the platforms.

— Originating from existing ETPs, a number of implementation vehicles (e.g. PPP, Cluster etc.) are already in place.

5.3 *Weaknesses*

— ETPs should think strategically, and avoid becoming a narrow lobby-group and losing focus. - ETPs may suffer from duplication or excessive fragmentation of activity.

— In some cases the big "players" dominate ETP action.

— It is not easy to recognise and attribute final applications and innovations to ETPs:

  — Visibility of ETPs is still low, both in the public and private domains

  — NGOs are not interested in involvement

  — MS Mirror groups (NTPs and RTPs) were generally not successful.

— More effort is needed to generate a multi-sectoral perspective harmonising stakeholders' interests and their interaction.

— ETPs should improve their communication and the dissemination of results.

5.4 *Opportunities*

— ETPs are key to boosting the EU "industrial policy". The related NTPs and RTPs mirror ETP structure at MS level, improving platform coordination and effectiveness. Co-ordination and harmonisation of European, national and regional R&I programmes should be improved in cooperation with ETPs.

— The solution-provider role of ETPs with regard to societal challenges will gain a higher profile in the light of the enhanced strategy of addressing innovation in addition to research.

— Specific priorities have been defined to boost innovation in the public and private domains: Resource and Energy Efficiency in Process Industry (SPIRE), Biobased Industries PPP, European Innovation Partnerships on Water, Raw Materials, Smart Cities (jointly with the SET plan and EMIRI).

— ETPs request the EC for an increased use of Coordination Support Actions to drive value chain cooperation and to improve simplification efforts. Improving international cooperation, attracting the best global knowledge for EU commercialisation and exploitation could make a major contribution to the work of ETPs.

— ETPs should link demand-side innovation tools to complement research actions in order to accelerate market up-take.

— ETPs could raise awareness of the importance of various industrial manufacturing processes for sustaining welfare and wellbeing in Europe.

— People-focused education, learning & training should be maintained within the ETP landscape.

5.5 *Threats*

— ETPs claim a lack of financial resources to run the platforms.

— ETPs may suffer the decline of EU industry. The EU Industries are losing their worldwide leading position; they suffer from a generally low level of risk-taking in the EU and from a lack of entrepreneurship recognition in comparison to other parts of the world.

— More effective implementation of the EU regulatory framework simplification process (including participation in EU projects), increased effort in reducing fragmentation and competition between institutional initiatives, better coordinated policies and for increased visibility in the future at institutional level, could increase the effectiveness of ETPs.

— Manufacturing processes and the manufacturing-related R&I activities are losing their societal appeal for the general public and especially for young people. This is also a consequence of the delocalisation of manufacturing activities outside Europe.

6. **Cooperation among ETPs and between the ETPs and the European Commission**

ETPs have been active in implementation of the FP 7 for R&I of the EU. ETPs are now providing information and proposals to the ongoing work for the establishment of Horizon 2020 to bring it into line with the real needs of the European society, particularly the needs of the manufacturing and service sectors.

6.1 *Horizon 2020*

6.1.1 Horizon 2020 is the instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. Running from 2014 to 2020 with an EUR 80 billion budget, is part of the drive to create new growth and jobs in Europe. Horizon 2020 will:

— strengthen the EU's position in science;

— strengthen industrial leadership in innovation. This includes major investment in key technologies, greater access to capital and support for SMEs;

— help address major concerns shared by all Europeans on issues such as climate change, developing sustainable transport and mobility.

6.1.2 Horizon 2020 will tackle societal challenges by helping to bridge the gap between research and the market. This market-driven approach will include creating partnerships with the private sector and Member States.

6.1.3 Horizon 2020 will be complemented by further measures to project and develop the European Research Area by 2014. These measures will aim at breaking down barriers to create a genuine single market for knowledge, R&I.

6.2 *Europe 2020*

6.2.1 Europe 2020 is the EU's growth strategy for the coming decade. The EU should become a smart, sustainable and inclusive economy. These three mutually reinforcing priorities should help the EU and the MSs deliver high levels of employment, productivity and social cohesion.

6.2.2 In practical terms, the EU has set five ambitious objectives - on employment, innovation, education, social inclusion and climate/energy - to be reached by 2020. Each MS adopted its own national targets in each of these areas. Concrete actions at EU and national levels underpin the strategy.

6.3 *Future role of ETPs*

6.3.1 The role of ETPs is expected to be maintained in future. In addition, ETPs may also support the implementation of the EC instruments some of which have already been tested in the FP7. The EC is expected to use more (even if in a limited number) implementation instruments in Horizon 2020 such as PPPs, and Joint Technology Initiatives (JTIs).

6.3.2 There is a strong commitment from the industry and the broader stakeholders to support the implementation of tools above mentioned. Examples include Public-Private Partnerships for Biobased Industries PPP (Biobased for Growth), *Sustainable Process Industries through Resources and Energy Efficiency (SPIRE), Energy Materials Industrial Research Initiative (EMIRI) and Research for Future Infrastructure Networks in Europe (reFINE).*

Brussels, 11 July 2012.

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