**COMMISSION STAFF WORKING DOCUMENT**

**STRATEGY FOR EUROPEAN TECHNOLOGY PLATFORMS: ETP 2020**

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## 1. INTRODUCTION

Smart investment, especially in research and innovation, is vital to maintain high standards of living while responding to pressing societal challenges and taking advantage of demands from EU and global markets.

European Technology Platforms (ETPs) are industry-led stakeholder fora that develop short- to long-term research and innovation agendas and roadmaps for action at EU and national level to be supported by both private and public funding.

ETPs were established in 2003 after the European Council called for a strengthening of the European Research Area by "…creating European Technology Platforms (ETPs) bringing together technological know-how, industry, regulators and financial institutions to develop a strategic agenda for leading technologies".

Building on the strategies for Europe 2020 and for an Innovation Union, the Commission's Horizon 2020 proposal for an integrated research and innovation framework programme recognises the role of European Technology Platforms (ETPs) as part of the external advice and societal engagement needed to implement Horizon 2020.

Fora and networks such as ETPs are important because markets, while being powerful drivers of innovation, often do not function perfectly when it comes to generating ideas in an environment with a high degree of uncertainty and a need for coordination, which typifies the innovation process. Networks facilitate the move to more open models of innovation by helping improve the innovation capacity of individual firms. Empirical studies have demonstrated that firms collaborating on R&D are more innovative than those that do not, and this is particularly true for technologically intensive industries where interrelatedness and complexity is high or where the knowledge base is multidisciplinary and widely dispersed. Furthermore, small firms in particular have been able to take advantage of networks in order to overcome the disadvantages of their size.

## 2. STATE OF PLAY

Prior to the development of this strategy, 36 ETPs had been recognised by the Commission. These ETPs spanned a wide range of technologies. The five institutionalised public-private partnerships referred to as Joint Technology Initiatives originated directly from ETPs. ETPs were also the European Commission's main partner in developing the four contractual public-private partnerships under the seventh Framework Programme (FP7) and the six European Industrial Initiatives of the Strategic Energy Technology (SET) Plan.

Assessments carried out in 2008[1], 2009[2] and 2010[3] acknowledged the success of ETPs in developing joint visions, setting Strategic Research Agendas and contributing to the definition of the research priorities including those under the Research Framework Programmes.

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[1]    Evaluation of the European Technology Platforms (ETPs) - IDEA Consult, August 2008 (http://ec.europa.eu/research/era/docs/en/era-partnership-others-etp-evaluation-study-2008-en.pdf).

[2]    Strengthening the role of European Technology Platforms in addressing Europe's Grand Societal Challenges - Report of the ETP Expert Group, October 2009 (ftp://ftp.cordis.europa.eu/pub/etp/docs/fa-industrialresearch-b5-full-publication-rp_en.pdf).

[3]    Role of European technology Platforms in the preparation of work programmes – DG RTD Internal Audit Report.

Furthermore, some Member States have established national technology platforms to mirror ETPs: some to build capability and enable their research communities to influence and participate in European activities, others to align their activities with the shared strategic vision.

The aforementioned assessments also highlighted some shortcomings, notably the difficulties of SME participation, the susceptibility of ETPs to being captured by 'big' players, the risk of duplication, and inconsistent European Commission procedures for oversight and funding (some ETPs received funding for their secretariat or specific actions, while others did not).

The rationale for ETPs however remains valid: ensuring that EU research has a high impact in leading markets and technology areas with the overall objective of closing the gap with global innovation leaders and boosting jobs and growth in the EU. This rationale is reinforced in Horizon 2020, which will considerably strengthen the innovation dimension of EU support.

## 3. EUROPEAN TECHNOLOGY PLATFORMS 2020: VISION AND MISSION

The Vision

European Technology Platforms will be a key element in the European innovation ecosystem and will help turn Europe into an Innovation Union. To do this, ETPs will have to take a holistic view, identifying the pathway to commercial deployment of research, provide strategic insights into market opportunities and needs, and mobilise and network innovation actors across the EU in order to enable European companies gain a competitive advantage in global markets.

The Mission

ETPs will:

(1)     develop strategies and provide a coherent business-focused analysis of research and innovation bottlenecks and opportunities related to societal challenges and industrial leadership actions: strategy function;

(2)     mobilise industry and other stakeholders within the EU to work in partnership and deliver on agreed priorities: mobilising function;

(3)     share information and enable knowledge transfer to a wide range of stakeholders across the EU: dissemination function.

This will require the industry-led and focused ETPs to be inclusive and representative of businesses, research organisations and universities in their respective fields and to be open to new members. They will have to work in close partnership with Member States and Member State based networks as well as with countries associated[4] with the framework programme, where appropriate. The ETPs will also need to actively work with one another and engage with stakeholders, including those along the value chain, NGOs, social platforms and consumer/societal groups, as appropriate, to address wider challenges and foster solutions that are socially responsible, inclusive and sustainable.

## 4. PARTNERSHIP WITH THE COMMISSION AND MEMBER STATES

The Commission's proposal for Horizon 2020 specifies the channels of external advice for its programming and implementation: next to taking into account the advice and input from advisory groups, dialogue structures, forward looking activities, targeted public consultations and interactive responsible research and innovation processes, the Commission undertakes to

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[4]     Associated countries with science and technology cooperation agreements that involved contributing to the framework programme budget.

take full account of relevant aspects of the research and innovation agendas established by European Technology Platforms. Other relevant structures providing advice will include Joint Programming Initiatives and European Innovation Partnerships.

This, together with the innovation system approach underlying the Innovation Union strategy, provides a strong basis for a partnership with the Commission and with Member States.

As a consequence of this partnership and in order to enable a structured dialogue between the Commission and ETPs, designated Commission representatives belonging to various Directorates-General will actively participate in the work of respective ETPs.

## 5. RELATIONSHIP TO OTHER INITIATIVES

With their strategic insights, their capacity to mobilise stakeholders and disseminate knowledge, ETPs can contribute to priority-setting and the subsequent implementation of European Innovation Partnerships, European Industrial Initiatives, contractual and institutionalised public-private partnerships, Public-Public Partnerships (ERA-NETs, Article 185 initiatives, Joint Programming Initiatives), and the Knowledge and Innovation Communities of the European Institute of Innovation and Technology (EIT). The Commission will help ensure the necessary links to create synergies, where possible.

## 6. CORE ACTIVITIES

The objectives of the ETPs will be achieved through the following activities, which can be broadly categorised as:

- developing Strategic Research and Innovation Agendas including technology roadmaps and their implementation plans, taking into account the corresponding sector policy objectives and the potential economic, social and environmental impacts. The agendas will focus on those actions with impact on the market and will propose timeframes for expected outcomes. They will also include regulatory as well as other non-technological barriers such as business models, skills requirements etc.;

- encouraging industry participation in Horizon 2020 and helping widen participation and build capabilities within Member States through cooperation with networks/partnerships in Member States. This includes identifying opportunities for partnership in the framework of Research and Innovation Strategies for Smart Specialisation implemented in the context of the EU Cohesion policy;

- identifying opportunities for international cooperation and developing the necessary understanding to facilitate future collaboration;

- providing networking opportunities including with other ETPs to address cross-sectoral challenges and promote the move towards more open models of innovation, by providing opportunities for stakeholders to meet, exchange knowledge, make new contacts and develop ideas for working in partnership;

- facilitating the formation of new partnerships that utilise ETP expertise to, for example, identify parties that can work together to exploit the outcomes of a research project or address a specific challenge.

## 7. CRITERIA FOR RECOGNITION

To date, one of the main benefits of the ETPs has been their ability to provide coherent, strategic advice that replaced a reliance on a multitude of interactions.

To maintain efficiency, the number of ETPs must be finite. Furthermore, ETPs must be aligned with the challenges and priority areas identified by Horizon 2020, and structured to

bring disparate stakeholders together while addressing the shortcomings highlighted in earlier reviews.

Moving forward, the criteria that must be met for the Commission to recognise an ETP will therefore be:

- Alignment with Europe 2020 priorities and objectives – this could either be in terms of their ability to effectively address a Horizon 2020 societal challenge and/or develop sustainable industrial capability in a priority sector or emerging area;

- Scale of the market opportunity – this must represent a sizeable proportion of a current or potential future market and be seen to contribute to the global value chain benefiting Europe;

- EU added value - the EU's capacity, capability and skill-base to research, develop and exploit the technologies and/ or innovations in the proposed field;

- Transparency and openness – the ETP must be representative of its field, transparent in its activities and be open to new members;

- Scope – the extent to which the ETP reaches beyond a niche area and fosters interdisciplinary and cross-sector work without duplication;

- Leverage – the level of engagement and commitment of industry and Member States to the ETP, the ETPs ability to deliver on its proposed agenda and its collaboration with other ETPs on achieving common objectives.

## 8. NEW ETP LANDSCAPE ENTERING INTO HORIZON 2020

ETPs recognised by the Commission at the time at which this strategy was developed, were reviewed against the revised criteria, and their performance and impact to date, and emerging ETPs were also assessed against the set criteria in view of a possible recognition.

The review and assessment was conducted by the Commission's ETP inter-service group which is comprised of representatives from a number of Directorates-General, against the stated criteria to agree on recognition or otherwise by the Commissioner of the Directorate-General responsible for the policy area associated with the relevant ETP.

A revised list of recognised ETPs has now been agreed and the list, as of the date of publication of this strategy, can be found in Annex 1. An updated list will be maintained on the European Commission's ETP website.

Resulting from the review and assessment, specific cross-cutting initiatives that bring together the interests of several ETPs, and in doing so, avoid duplication and fragmentation, will also be highlighted.

Where a proposal for an ETP was not seen to be aligned with the set criteria and there was no possibility of forming an ETP with critical mass, even by merging it with a recognised ETP, the initiative will not be recognised or listed on the Commission's website, and there will be no commitment to taking full account of relevant aspects of its research and innovation agenda will no longer apply.

Furthermore, where there is a clear gap in the portfolio of ETPs, action will be taken by the relevant Directorate-General to encourage the formation of a new ETP to address this requirement. All new requests for recognition will be put forward for consideration to the Commission's inter-service group and recognition will only be conferred where the proposal is aligned with the criteria for recognition.

## 9. GOVERNANCE AND OVERSIGHT

ETPs define their own governance structures. These should ensure the fulfilment of the ETP's objectives.

Legal personality is not required, but might facilitate transparency.

The Commission will evaluate the performance of ETPs against the above mentioned criteria every two to three years. To this end, an internal guidance note will be developed in discussion with the ETPs to help operationalize and deliver on the ambitions of the strategy and thereby also strengthen the relationship between ETPs and the European Commission.

## 10. FUNDING

Given the ETPs' bottom-up character, the Commission will not fund costs such as ETP secretariats. ETPs should rely on self-organisation and financing. However, ETPs will be able to respond to competitive funding calls for coordinating and support actions by the Commission for specific activities such as the development of technology roadmaps, fostering collaboration between ETPs to address cross-sectoral challenges and networking events for stakeholders.

**ANNEX 1 – LIST OF RECOGNISED ETPS ON THE DATE OF PUBLICATION OF THE STRATEGY**

(1)     Advisory Council for Aviation Research and Innovation in Europe (ACARE)

(2)     Association for R&D actors in Embedded Systems (ARTEMIS)

(3)     European Aquaculture Technology and Innovation Platform (EATIP)

(4)     European Biofuels Technology Platform (EBTP)

(5)     European Construction Technology Platform (ECTP)

(6)     European Photovoltaic Technology Platform (EU PV TP)

(7)     European Rail Research Advisory Council (ERRAC)

(8)     European Road Transport Research Advisory Council (ERTRAC)

(9)     European Robotics Technology Platform (EUROP/euRobotics)

(10)    European Steel Technology Platform (ESTEP)

(11)    European Technology Platform for Advanced Engineering Materials (EuMaT)

(12)    European Technology Platform for Global Animal Health (ETPGAH)

(13)    European Technology Platform for High Performance Computing (ETP4HPC)

(14)    European Technology Platform for Nanoelectronics (ENIAC)

(15)    European Technology Platform for the Future of Textiles and Clothing

(16)    European Technology Platform for Sustainable Chemistry (SusChem)

(17)    European Technology Platform for Wind Energy (TPWind)

(18)    European Technology Platform on Logistics

(19)    European technology Platform on Nanomedicine

(20)    European Technology Platform on Renewable Heating & Cooling (RHC-Platform)

(21)    European Technology Platform on Smart Systems Integration (EPoSS)

(22)    European Technology Platform on Sustainable Mineral Resources (ETP-SMR)

(23)    Food for Life

(24)    Forest Based Sector Technology Platform

(25)    Integral Satcom Initiative (ISI)

(26)    Manufuture

(27)    Net!Works

(28)    Networked and Electronic Media (NEM)

(29)    Networked European Software and Services Initiative (NESSI)

(30)    Photonics 21

(31)    Plants for the Future

(32)    Smart Grids European Technology Platform

(33)    Sustainable Farm Animal Breeding and Reproduction Technology Platform (FABRE-TP)

(34)    Sustainable Nuclear Energy Technology Platform (SNETP)

(35)     Technology Research Platform for organic food and farming (TP Organics)

(36)     Water supply and sanitation Technology Platform (WssTP)

(37)     Waterborne

(38)     Zero Emissions Platform     (ZEP)

**<u>Cross ETP initiatives</u>**

(1)      Nanofutures

(2)      Industrial Safety