



**European Cooperation
in Science and Technology
- COST -**

Brussels, 20 March 2012

Secretariat

COST 4106/12

NOTE

To : COST Committee of Senior Officials (CSO)

Subject : COST in the next FP for Research and Innovation "Horizon 2020"
- COST Position paper: "The COST Framework - A cornerstone of the ERA"

Delegations will find attached the COST Position paper: "The COST Framework - A cornerstone of the ERA" approved by the CSO at its 184th meeting on 19 March 2012¹.

¹ Without prejudice to the positions of individual Member States during the forthcoming discussions on the Multiannual Financial Framework (MFF) and on Horizon 2020.

THE COST FRAMEWORK – A CORNERSTONE OF THE ERA

What is COST?

COST - European CO-operation in Science and Technology²

COST is a unique means for European researchers to jointly develop their own ideas and new initiatives across all scientific disciplines through trans-European networking of nationally funded research activities. Based on a European intergovernmental framework for cooperation in science and technology, COST has contributed since its creation 40 years ago to closing the gap between science, policy makers and society throughout Europe and beyond.

What is COST's Mission?

COST's mission, recently updated through a unanimous decision of the Committee of Senior Officials (CSO) is to **enable break-through scientific developments leading to new concepts and products** and thereby contribute to strengthen Europe's research and innovation capacities.

Why is COST a success?

COST has managed to **combine stability with adaptability** while preserving its core mission, its instrument (networking) and its rules. COST has been able to build **trust with and within the scientific communities in Europe and beyond**.

COST has been recognized as having an **European added value** throughout the consecutive reviews and assessments, including the FP7 Mid-term Evaluation of COST in 2010. This is also confirmed by the continuous commitment of its Member countries.

What are COST's strengths?

COST has been able to find the **balance between a science and technology-driven (S&T) application process and a policy-driven validation process**. The main specific features that have allowed COST to be the longest lasting, most stable framework for transnational S&T cooperation on the European continent are:

- COST has built upon the concept of **inclusiveness at all levels**, its **networking instrument**, the COST Action, is **open to**:
 - **all fields** of S&T (including interdisciplinary, new and emergent fields),
 - any **novel and original idea** (innovative),
 - **all partners** (public and private, big and small),

² COST is an intergovernmental framework set up in 1971 by 19 European countries. COST has now 35 European member countries (27 EU Member States, three EFTA Member States, four acceding and candidate countries and one potential candidate country), plus Israel as Cooperating State. COST's budget for networking activities comes from the successive RTD Framework Programmes and is executed by the European Science Foundation (ESF) since 2003 through a contract with the European Commission, whilst governed by the Committee of Senior Officials (CSO) in an intergovernmental framework.

- **all career stages** (young and senior investigators),
- **all countries** (small and big, leader and follower countries), and to non-COST countries (fostering international cooperation).

This makes it a unique case in the European Research Area (ERA) COST offers a networking scheme with tools and rules **adapted to the needs of S&T projects** leading to **all categories of innovation**.

- COST has produced a **significant leverage** effect that has allowed:
 - to identify and achieve complementarities **avoiding duplication** of efforts,
 - to reduce isolation, build critical mass for **joint research efforts** and develop common S&T programmes addressing societal challenges,
 - to enhance communication and **sharing knowledge and ideas** within the ERA, **paving the path to innovation**.

COST offers thereby a significant **value for money**: The EU total input contribution to COST is EUR 240 million from FP7, corresponding to 0.48% of the total budget for FP7 (2007-2013). Since the beginning of FP7, this contribution totalled EUR 113.4 million, making it possible for COST to currently run 240 Actions. These Actions engaged on average 6310 officially nominated participants every year, corresponding to nationally funded research inputs estimated to be at least EUR 2.6 billion, or EUR 650 million annually. Each COST Action has an average budget of about EUR 100 000, used to pool EUR 3.25 million of national funds per Action. Every EU euro to COST attracts 23 euro of nationally funded research. But value for money is not only achieved from the funding perspective. While COST currently can meet only 5% of the scientific demand for COST cooperation, the scientific community also seems to find value for money in COST in terms of worth joining with “for own reasons with own money” without extra funding.

Which are COST's achievements?

S&T challenges encountered by researchers and stakeholders are unpredictable and can be related to any of the three distinct but **interlinked activities of knowledge creation, knowledge spreading and knowledge application** (commonly referred to as *innovation*).

COST takes into account the unpredictability of S&T efforts by ensuring openness and adaptability in terms of research topics, network participation and work organisation. As a result, **Actions have impacts in many different ways**: they are suitable for fields of research that are not yet fully established (55% of COST Actions focus on emerging fields) and to build bridges between disciplines (70% of COST Actions span several disciplines). Actions are also ideal to bring separate networks around the same table (22% of Actions are estimated to be ‘networks of networks’) and their openness allows non-academic stakeholders to participate (about 20% of the Actions can be defined as mixed).

The **outputs of Actions** in terms of knowledge creation and application vary significantly, and they include new models, theories, methodologies, processes, and databases as well as standardisation, policy contributions and technological applications. Finally, the more than 240 COST Actions currently running each year actively build capacity for individuals and communities. For example, in 2010, COST-funded training schools had more than 1200 participants and a similar number of scientific missions was organised. Moreover, many COST Actions become sustainable consortia capable of running projects funded by other frameworks (e.g. 55% of COST Actions aim to apply for FP funding).

How is COST preparing for the future?

COST has recently adopted a strategy (COST 4157/11) for **reviewing its mission whilst shaping its future**, through measures to be achieved by 2014 that will reinforce its position in ERA by

strengthening its key features:

- building capacity by connecting high-quality scientific communities throughout Europe and worldwide
- providing networking opportunities for early career investigators
- increasing the impact of research on policy makers, regulatory bodies and the private sector

concentrating on four strategic goals:

- best performance in its implementation
- stronger orientation to output in COST Actions
- improving cooperation within COST countries and beyond
- ensuring good governance

This will allow COST to be ready for the next Framework Programme for research and innovation "Horizon 2020".

What can COST achieve in the future?

COST can and must **maintain and develop** the activities which are its current **core business**. Additionally, COST can **reinforce outputs and impacts** it has already been developing through its Actions by pro-actively instigating more targeted activities.

COST would thereby further contribute to

- **fostering scientific excellence** by connecting "pockets of excellence" throughout Europe;
- **developing S&T for innovation** by increasing linkage of academia and business and creating wider acceptances of new ideas for future utilisation (COST offers a wide forum where open discussion and confrontation of and to new ideas is possible and lays bases for normative development for wide potential geographic areas);
- **addressing societal challenges** through topics related to the currently recognised grand challenges. COST Actions offer a platform for identifying early warning signals of unforeseen societal problems and provide for original solutions;
- **widening pan-European participation**, while reinforcing cooperation with neighbouring countries and developing global cooperation based on mutual benefit;
- **providing networking opportunities for early career investigators** and thereby contributing to favour excellence for the next generation.

In particular, COST can **offer its networking instrument and trust-building capability**, its know-how and its facilities (such as administration) to connect "pockets of excellence" throughout Europe and contribute making them visible to others.

COST's networking scheme offers **tools and rules that are researcher-friendly and adapted to S&T needs**, thereby allowing participating teams and individuals **to learn from each other, learn coordination techniques and best practice in public money management**.

COST can help European regions to develop their capacities and **strengthen excellence** by specific measures targeted to their needs but decided by them, thus fostering ownership and responsibility. **COST provides a framework for all European countries to fully participate in ERA and engage in the European decision-making process.**

Through its Actions COST **can in future serve** as the unique entity offering the necessary adaptability and networking tools for any relevant initiative which needs initially **to connect people, share knowledge and organise research**, thus opening the door to Horizon 2020 and other competitive programmes, facilitate access to infrastructures, contribute to creating links with structural funds, and favour global cooperation.

What possible future role for COST in ERA?

Following the specificities and strengths of COST and the potential developments described above, it is clear that COST is the sole European framework offering a running, well-functioning, **bottom-up-oriented and open networking instrument** implemented through adaptable rules and light administration.

It is worthwhile to note here that the Mid-term Evaluation 2010 strongly agreed that *"there is both the need and the possibility within the European Research Area for a 'bottom-up networking' instrument for nationally funded research projects"* and that *"COST has made invaluable contributions over the last almost 40 years and COST Actions can act as model case"*.

Having in mind the core business of COST with its **bottom-up approach enabling networking of excellent scientists and the development of new emerging scientific topics** a shift of COST's position within the Horizon 2020 proposal to the **Excellent Science Pillar** or to a new budgetary line dedicated to **"horizontal support measures"** should be considered. This would enable COST to develop further synergies with excellence programmes like the European Research Council, Future and Emerging Technologies and Infrastructures while reinforcing strategic activities as mentioned above.

Consequently, in the frame of the discussions on **Horizon 2020**, and with the aim to complement and foster **synergies with other science-driven activities**, **COST proposes to maintain its current activities**, including innovation and societal challenge-oriented topics, whilst promoting activities to identify excellence throughout Europe.

A further important aspect will be the **international dimension** of COST Actions. COST is an appreciated mechanism for non-COST countries based on mutual benefit, and with a specific strategy for neighbouring countries. In particular, COST partner countries are very supportive of the high quality networking of COST and there is an increasing demand for further co-operation. This aspect could also serve the goals of the EU2020 Flagship Initiative "Innovation Union" by contributing efficiently to creating trust, structuring international cooperation and leveraging also national R&D funds from EU Third countries supportive to European interests.

What implementation structure for COST?

Concerning COST's future implementation structure, different possibilities can be imagined. However, any solution envisaged should not only utilise COST's long lasting experience and core activities, but also its **light administration and adaptability**; it will need to **provide COST with administrative independence** in order to preserve COST specificities and qualities.

It is worthy to recall here the Mid-term Evaluation recommendation underlining that “the structure must respond to objectives” consistent with the *‘form follows function’* approach.

What should COST budget be?

While the COST model has proven its European added value - also demonstrated by the great demand expressed by the high number of proposals- the actual budget does only allow funding a low number of Actions per year (around 60), that hinders COST to widen its impact.

The European Union wishes to widen participation across the entire Horizon 2020 framework; this should partly be achieved through more bottom-up elements and providing better access to pan-European networks. To meet both the ambitions of Horizon 2020 and the strong, still growing, demand from the scientific community for easier access to COST and allow for more scientific interactions, it is necessary to aim at expanding COST beyond its FP7 capacity. In quantitative terms this would mean to gradually increase the European scientific community's access to COST from the current ~2 % (now 15.000 to 20.000 scientists are directly networked through COST Actions) up to 4-5% (40.000—50.000 scientists directly networked) during the period 2014-2020.

Therefore, subject to the budgetary envelope available for COST in Horizon 2020, COST **proposes to enhance its impact capacity by increasing progressively the number of networking Actions** from 2014 onwards.

A preliminary estimate shows that **by adding an average of 110 Actions** to the current 60 new Actions each year, COST could run up to around average 790 yearly Actions at the end of the Horizon 2020 Framework. It is important to note that the **administration needs would not increase** proportionally, but attain most advantageous **efficiency**; this supposes an **average annual budget of EUR 80 million**.

In summary, with a **total budget of EUR 560 million** COST could support up to 1190 new Actions **over the next 7 years**. **COST can be entrusted with reinforcing its strategic activities**, including fostering scientific excellence, developing S&T for innovation, addressing societal challenges, widening pan-European participation, and fostering networking of early career investigators, what would strengthen its outcomes and impacts for the benefit of Europe.

Conclusion

COST can be the scheme in ERA dedicated to networking researchers, and based on its intergovernmental structure, could play the role of facilitator/mediator for (operational) partnership initiatives between the MS and the EC and their first phase implementation. It could thereby make a critical contribution to the goals of EU2020 Flagship Initiative "Innovation Union".

Subject to the coming budgetary discussions on Multiannual financial framework and on Horizon 2020, and with the aim to complement and foster synergies with EU goals, **COST first priority would be to maintain and, if possible, strengthen its current activities, and then reinforce strategic aspects as described above.**

Considering the character and strengths of COST its substantial contribution to the realisation of the "excellence" priority should be recognised in Horizon 2020 and a shift of its position within the current proposal of Horizon 2020 to the Excellent Science Pillar or a new budgetary line dedicated to "horizontal support measures" should be considered.

Strong reasons exist to maintain, reinforce and further develop COST. Subject to the budgetary envelope available, the opportunity of dedicating EUR 560 million over the next 7 years, representing only 0,7% of the overall budget of Horizon 2020 should be examined.

COST has done much with little, imagine what it could do with more.
