HOW DOES COST CONTRIBUTE TO EUROPEAN TECHNICAL AND SCIENTIFIC TRANSPORT RESEARCH AND POLICY?

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1. INTRODUCTION TO GENERAL COST INTENTIONS

COST – the European COoperation in the field of Scientific and Technical Research (http://www.cost.esf.org/) – is the widest European intergovernmental network for cooperation in research. Established by the Ministerial Conference in November 1971, COST is presently used by the scientific communities of 35 European countries to cooperate in common research projects supported by national funds (Figure 1).

![COST countries map](image)

Figure 1. COST countries

The funding provided by COST of around € 20 million per year, which is less than 1% of the total value of the nationally funded projects of annually exceeding € 2 billion, supports the COST cooperation networks (COST Actions) of more than 30,000 European scientists.

A “bottom up approach” (the initiative of launching a COST Action comes from the European scientists themselves), “à la carte participation” (any country voluntary interested in the Action to participate); “equality of access” (e.g. participation is also open to the scientific communities of non-EU countries) and “flexible structure” (easy implementation and light management of the research initiatives) are the main characteristics of COST.

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As precursor of advanced multidisciplinary research, COST has an important role for the realization of the European Research Area (ERA) anticipating and complementing the activities of the EU’s Framework Programmes, while constituting a “bridge” towards the scientific communities of emerging countries, increasing the mobility of researchers across Europe and fostering the establishment of “Networks of Excellence” in many key scientific domains, such as: Biomedicine, Chemistry and Molecular Sciences, Earth System Science and Environmental Management, Food and Agriculture, Forests, Cultures and Health, Information and Communication Technologies, Transport and Urban Development, Materials, Physics and Nanosciences.

COST intends to support analysis and dissemination of innovative cross-border European basic and applied research of public concern within COST Actions. Thereby, it also addresses issues of pre-normative nature and societal importance.

2. COST TRANSPORT ACTIONS

The Transport and Urban Development Domain of COST supports several ongoing COST Transport Actions within an annual support of about 1.56 million Euros in 2006, which have covered a wide range of scientific and technical issues (Figure 2).

![Figure 2. COST Transport Actions](image)

Some following particular examples of current and recent COST Transport Actions shall reveal the practical political demand of COST supported technical and scientific transport research, which are taken from their respective Memorandum of Understanding (MoU). The MoU is the basic cooperation document, which is signed by COST members who wish to join
the particular Action. It outlines the objectives, timetable, organizational structure, and dissemination of results of the particular COST Action.

2.1 COST Action 355

The main objective of the COST Action 355 “Changing behaviour towards a more sustainable transport system” has been to analyse the conditions under which the process of growing unsustainable transport demand could be reversed, by changing travellers’, shippers’, and carriers’ behaviours. Current transport behaviour leads to increasing congestion of the infrastructure, growing dependence on imported fossil fuels, continually rising energy demand, and growing CO2 emissions. The road infrastructure system is failing to cope with the amount of traffic. There is a broad consensus in the declared policies of local, national and international agencies that this trend is not sustainable in the longer term, so that one of the major roles of transport policy is to manage, slow down or reverse this process. This is particularly the case in metropolitan areas, and concerns both personal travel and freight transport (Figure 3).

![Motorway construction nearby Vienna](https://via.placeholder.com/150)

Figure 3. Motorway construction nearby Vienna (© Jan Spousta)

The urgency of the situation has been emphasised by the White Paper “European Transport Policy for 2010: Time to decide”. A shift to sustainable forms and means of transport is also a main goal of the transport policy documents in the EU Member States and other European countries. A number of projects and studies have been conducted in this field, not only by the EC, but also by the OECD, ECMT (European Conference of Ministers of Transport) and other international organisations and on the national and regional level. Results of the recent research activities have been implemented into practice and some of these measures have already brought significant improvement, particularly if supported by the relevant economic tools. The COST Action has intended to create a platform to exchange, consolidate and disseminate existing knowledge and skills to scientific institutes, practitioners and administrations across the EU.

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2.2 COST Action 353

The maximisation of road safety through the development of a framework for the management of winter traffic is the objective of the COST Action 353 “Winter Service Strategies for Increased European Road Safety”. A previous COST Action 344 “Improvements to snow and ice control on European Roads and Bridges” has been a useful platform for identifying the most important topics for short and long term winter maintenance research. It is one of the few Actions involving so many countries in the domain of winter maintenance and road weather. Hence it has provided a good network for contacting the relevant experts in Europe, and through them, experts elsewhere (Figure 4).

![Figure 4. Winter service needed for roads in Brussels (© Jan Spousta)](image)

This COST Action deals with research of different aspects of the winter service domain and to build on the achievements of COST Action 344. Experts believe that up to 50% of the total maintenance budget is spent on winter maintenance in many European countries. It therefore has a high significance in not only keeping roads and footways free from ice and snow, but also in matters of pedestrian and driver safety. Understandably, drivers and pedestrians should also take responsibility for their behaviour in adverse weather conditions. The Action targets safety, environment and economy issues and the necessary optimisation of these in delivering a quality winter service. For example, freight traffic is particularly vulnerable to economic factors when road and rail surface conditions in winter are poor.

A COST Action is also suited well to these topics, as most of them require active efforts and demonstrations / pilot implementations on the national level...
and co-ordination and integration between the national inputs. Research is ongoing in Japan, North America and Canada on similar topics, and it will be useful to compare winter practices and management strategies in Europe with those of these other countries. A substantial part of all road accidents can directly or indirectly be linked with prevailing winter road conditions, namely ice and/or snow. However, little research on this subject, or an examination of the possibilities of improving this situation, has been carried out particularly taking into account increased knowledge of winter management and information systems.

The Action is carried out as European cooperation because of its European dimension and the need for harmonisation. It requires the close involvement of major road authorities and operators in various countries so that management modules can be developed on a European wide basis in order to compare service performance, safety records, and quality levels in similar climate domains. In this way, benefits in this area will be maximised. It is also beneficial to involve those COST countries, which are not yet a part of the European Union.

2.3 COST Action 349

The principal objective of the successfully terminated COST Action 349 “The Accessibility of Coaches and Long Distance Buses for People with Reduced Mobility” was to produce a concept providing guidance on the construction and design of interurban and international coach and bus systems in respect of the needs of people with reduced mobility in order to assist operators, passenger and authorities when developing plans for accessible and high quality transport systems (Figure 5).
The Action’s results are of considerable relevance in the development of the EU legislative or regulatory acts, similarly to previous two Actions dealing with accessibility of urban buses and railways. Disabled and older people represent a significant and growing part of Europe's populations whose desire to travel for business and leisure represents a potential major new source of revenue for passenger transport operators. Many other people may encounter temporary mobility restraints when using the collective transport services and their infrastructure.

At the level of the European Union, various initiatives recognise the needs of disabled and elderly people. The demographic trends throughout Europe indicate a marked rise in the number of elderly people in the population and there is a high correlation between age and disability. Improving access to bus and coach travel will provide additional social, as well as, economic benefits at personal, governmental and commercial levels. In this respect, it has to be borne in mind that bus and coach transport is an integral link in the transport chain, is replacing rail transport in some areas and can often be operated at lower cost than rail and other options, and is, therefore, particularly attractive to elderly people and low income groups. It is important to recognise that making facilities and services better for disabled and elderly people makes them better for everyone. It increases the quality of the coach product and as such will be stimulating the use of the vehicles by able-bodied people.
In 1995, COST Action 322 on low floor buses was completed with helpful recommendations for improvement. In 1999, COST Action 335 on the accessibility of heavy rail systems was successfully concluded. Apart from apparent similarities with regard to target groups and design features, the latter Action focused on the requirements of the heavy rail system such as platform heights, the construction of the trains and intermediate solutions, since accessibility of the heavy rail systems is by definition not achievable at short notice. In the Action on buses and coaches, use was made of the expertise obtained in the previous Action and attention was paid to the relationship between buses and trains in the total travel chain. There was also no body of research available, which brought together best practice and which addressed the issue of access to buses and coaches as this COST Action throughout the whole transport chain and in all its various elements. Countries that can benefit from the results of the Action include those in Central and Eastern Europe, as well as, current EU Member States.

3. INSTRUMENTS OF COST ACTIONS

3.1 COST structure

Management Committees (MC)

Each Action is supervised and coordinated by a Management Committee (MC). It is composed of up to 2 experts nominated by each signatory country through the COST National Coordinator (CNC). The MC is responsible for the planning, implementation and coordination of the work to be carried out during the lifetime of the Action within its budget allocations. The scientific work of the Actions is organised through Working Groups (WGs) (Figure 6).
**Domain Committees (DCs)**

The Domain Committees form the principal scientific level of COST and provide an expert interface between the CSO and scientists operating in the various scientific fields (Domains). The DCs are composed of one expert per country nominated by the CNCs. The DCs are responsible for the quality control of Action proposals. They oversee the implementation of the Actions and provide the assessment, monitoring and final evaluation of Actions. Moreover, the DCs are also responsible for strategic science activities in their Domain.

**Committee of Senior Officials (CSO)**

The Committee of Senior Officials (CSO) is the main decision-making body of COST structure, which is composed of two representatives from each COST country. It reports directly to the Ministerial Conferences, formulates the general strategy of COST, appoints the various Domain Committees, decides on their terms of reference, approves the COST Action proposals to be launched and supervises their implementation.

**JAF Group**

JAF is an acronym of the French terms for Legal, Administrative and Financial Affairs (“Judiciaire”, “Administrative”, and “Financière”). The JAF Group consists of the President and the Vice-President of the CSO and five other delegates, which are elected from the members of the CSO. It prepares the work of the CSO and it carries out tasks assigned to it by the CSO. The CSO may delegate decision-making to JAF Group on clearly defined items.

**COST National Coordinator (CNC)**

One CSO member from each country acts as a COST National Coordinator (CNC). The CNC liaises between the scientists and institutions in his/her country, the COST Secretariat, and the COST Office.

**COST Secretariat and the COST Office**

The Secretariat-General of the Council of the EU provides the secretarial services for the CSO and the JAF Group. The European Science Foundation (ESF) operates the COST Office, which provides the scientific secretariat for the Domain Committees and Actions’ Management Committees.

**3.2 Financing of COST Activities**

Most of the activities of COST are financed through a contract between the European Commission and the ESF from a specific line within the EU Research Framework Programme. The COST budget is able to finance the activities of MCs, WGs, and DCs, which can include the following items:

- travel expenses and daily allowances for delegates to meetings
• workshops/conferences
• short term scientific missions (STSMs) - interlaboratory exchanges
• training schools
• Action grants
• publications and dissemination (including a website grant)
• high level research conferences (jointly with the European Science Foundation (ESF))
• studies, reviews, assessments, and strategic activities
• special provision for researchers from “near neighbours” countries.

3.3 Getting involved in the COST network

How can you join ongoing COST Transport Actions?

Depending on your own position and that of the Action (for details please visit the COST website and select the relevant Action: http://www.cost.esf.org/index.php?id=239), there are several different forms of cooperation:

1. If your laboratory or institution is located within a COST member country, which does not necessarily refer to your own nationality, you can join the Action as a:

1.1. Member of the Management Committee of an Action, in case your country has not already nominated two scientists at the maximum, but it is already a signatory of the Action.

1.2. Member of the Management Committee, if your country is not yet a signatory of the Action. In that case, your country is kindly asked to sign at first its participation in the relevant Action, before you can be nominated by your COST National Coordinator (CNC) to join the Action as an MC member (please note: If your country intends to become a member twelve months after the approval of the Action, the additional approval of the Management Committee of the Action is required.)

1.3. Member of a Working Group of an Action

1.4. Invited expert to specific events of an Action (meetings of the MC, WG, workshop participation, etc.)

Formalities required - What do you need to do?

Regarding 1.1: Contact your COST National Coordinator (CNC), who can officially nominate you as a representative of your country to the MC committee. It is recommended that you also contact the chair of the Action about your interest.

Regarding 1.2: Contact your CNC, who can launch the participation of your country in the relevant Action. He will find out whether the obligatory national funding of the research activity is provided. In this case, the CNC
can launch the official participation of your country in the relevant COST Action, and he can officially nominate you as a representative of your country to the MC committee. More than twelve months after the CSO approval of an established COST Action, there is also the agreement of the MC committee required to join the Action. In any case, it is recommended that you inform the chair of the Action about your intention.

Regarding 1.3: Contact the chair of the Action (directly or via a colleague from the Action or via the COST Office) and obtain an invitation to participate in a suitable COST Working Group.

Regarding 1.4: Contact the chair of the Action (directly or via a colleague from the Action or via the COST Office) and receive an invitation to take part in a specific event of the Action.

2. If your Institution is situated in a non-COST member state, there is the opportunity:

2.1. To participate by an institution, which has the status of a "non-COST participating institution", if it was recognized by the Committee of Senior Officials (CSO) for providing mutual benefit. This allows participating in the MC and WG meetings, but without voting rights. The participants from non-COST countries are generally not eligible for reimbursements of travel expenses; despite exceptions might be possible for specific countries.

2.2. To participate as an invited expert to specific events of an Action (meetings of the MC, WG, workshop participations, etc.).

*How can you initiate a new transport Action proposal?*

COST invites researchers throughout Europe through a continuous Open Call to submit new proposals for research networks and the use of this unique opportunity to exchange knowledge and to embark on new European perspectives. This continuous call is thematically open. The first collection date for preliminary proposals was on 31 May 2006.

COST invites proposals for new COST Actions, which contribute to the scientific, economic, cultural or societal development of Europe. Proposals are especially welcome, which play a precursor role for other European programmes, also involving young scientists’ groups. Currently more than 200 Actions are supported within the COST framework. Every year approximately 50 new COST Actions are going to be approved. On average, there can be a financial grant support expected of some € 90,000 p.a. during normally four years of duration.

A two stage process is followed to assess proposals. *Preliminary Proposals* should provide a brief overview of the proposal and its impact. A pre-selection will rank the remaining Preliminary Proposals; thereof some 75 per collection date will be invited to submit a *Full Proposal.*
The next collection date for Preliminary Proposals will be held on 30 March 2007.

4. CONCLUSIONS

The goal of COST is to ensure that Europe holds a strong position in the field of scientific and technical research in transport and other domains for peaceful purposes by increasing European cooperation and interaction in this field.

COST has clearly shown its strength in non-competitive transport research policy, in pre-normative cooperation and in solving environmental and cross-border problems and problems of public utility. It has been successfully used to maximise European synergy and added value in transport research cooperation, and it is a useful tool to further European integration, in particular concerning Central and Eastern European countries.

Ease of access for institutions from non-member countries also makes COST a very interesting and successful tool for tackling transport topics of a truly global nature. To emphasise that the initiative came from the scientists and technical experts themselves and from those with a direct interest in furthering international collaboration, the founding fathers of COST opted for a flexible and pragmatic approach.

COST activities have in the past paved the way for Community transport policy activities, and its flexibility allows COST Actions to be used as a testing and exploratory field for emerging transport topics.

COST has a geographical scope beyond the EU and most of the Central and Eastern European countries are members. COST also welcomes the participation of interested institutions from non-COST member states without any geographical restriction.

COST has developed into one of the largest frameworks for transport research cooperation in Europe and is a valuable mechanism co-ordinating national transport research activities in Europe. Today, it has almost 200 Actions in total of all domains, and it involves nearly 30,000 scientists from 35 European member countries and more than 80 participating institutions from 10 non-member countries and Non-Governmental Organisations.