Additional Information Document

4th Call for Proposals

DECEMBER 2000

Task Descriptions

Key Action
"Sustainable Mobility and Intermodality"

Thematic Programme
"Competitive and Sustainable Growth"

5th Framework Programme

15 December 2000

INTRODUCTION

This document gives additional information concerning the specifications and objectives of all tasks foreseen in the fourth call for proposals of the Key Action "Sustainable Mobility and Intermodality" of the Thematic Programme "Competitive and Sustainable Growth".

All proposals submitted for this Key Action in the framework of these periodic call *should address one of these tasks or sub-tasks* as indicated in the task description, all of which are linked with the strategy and priorities defined for this call in the work programme, as updated.

The *first three digits* of the reference number mentioned together with each task title indicates the work programme reference number. An example: 2.1.1 stands for "Socio-economic scenarios for the mobility of people and goods", subheading "Quantitative tools for decision making". The number after the slash is the sequential number of the task within one research areas following the last number of the previous call.

Involvement of Non-EU countries (Item 8). Entities from Associated States to the Fifth Framework Programme are always welcome to participate. The information given within this item aims at inviting more expresly consortia to involve their entities for a given task, and sometimes entities from other identified third countries.

This document can also be downloaded from the Homepage of the Grwoth Programme on the Internet:

http://www.cordis.lu/growth

Appended to this document, you can find the list of tasks launched in the 1st call (March 1999), in the 2nd call (December 1999) and in the 3rd call (June 2000)

TASK DESCRIPTIONS

4th CALL. December 2000

This call includes CIVITAS and GALILEO

OVERVIEW OF TASKS
4th CALL – December 2000

CIVITAS

Objective 2.1 Socio-economic scenarios for mobility of people and goods

2.1.3 Policies for sustainable mobility

2.1.3/8 Increasing the urban transport system's sustainability and efficiency through radical strategies for Clean Urban Transport

2.1.3/9 Accompanying measure for monitoring and evaluating the introduction of radical strategies for Clean Urban Transport

GALILEO

Objective 2.3 Modal and intermodal transport management systems

2.3.3 Second Generation GNSS

2.3.3/6 Local elements definition

2.3.3/7 Impact of interoperability on the system definition

2.3.3/8 Frequencies allocation and protection, Certification and Standardisation

2.3.3/9 Development and optimal use of satellite navigation for all modes of transport

2.3.3/10 Detailed service analysis

2.3.3/11 Legal, institutional and regulatory framework for GALILEO

Task 2.1.3/8 Increasing the urban transport system's sustainability and efficiency through radical strategies for Clean Urban Transport

This task description offers additional information about the combined call for proposals for Clean Urban Transport demonstration projects, the CIVITAS initiative (CIty – VITAlity – Sustainability), which is supported by the Key Action Economic and Efficient Energy of the 'Energie' Programme and the Key Action Sustainable Mobility and Intermodality of the 'Growth' Programme[1]. A budget of up to 50 Million Euro has been earmarked as EU contribution, depending on the quality of the proposals received.

1. Problem description

About three-quarters of the EU population live in urban areas. Over 30% of all transport kilometres are made in towns. Traffic congestion is expected to increase and this not only results in problems at local level, it also creates bottlenecks on the Trans-European Transport Networks, especially in the interface with urban areas. According to estimations around 80 % of all external costs of transport in urban areas result from congestion.

Energy consumption of transport in cities is increasing rapidly, with private cars and commercial vehicles being responsible for 98% of energy consumption in urban transport. Urban traffic is responsible for more than 10% of all C02 emissions in the EU. The danger of unsustainable traffic growth and worsening living conditions, as well as political commitments such as the Kyoto agreement and the eEurope initiative, emphasise the need for an integrated approach.

The need for radical change, based upon a mixture of technology and policy based measures, will be emphasised in a new Commission Green Paper on Clean Urban Transport. The paper will also highlight the important role of Community-funded integrated demonstration and assessment projects, which are of a sufficiently large size to have a visible impact on decision-makers and citizens.

2. Task description

The objective of this initiative is to assess the impacts, including those on congestion, energy consumption, noise and air pollution, of the introduction of **radical integrated** sustainable urban transport policy strategies, supported by innovative measures, technologies and infrastructures. These strategies should particularly aim at achieving a shift in modal choice of people who have the option of car use towards alternatives.

The proposals for this initiative should combine energy-efficient, cost-effective and clean ***public and/or private vehicle fleets*** and the necessary fixed infrastructure (e.g. fuelling), with a wider package of measures in order to cover both the transport demand and supply side. The radical integrated urban transport policy package should be city wide, and it should address as many as possible of the following seven policy-fields:

[1] In close co-operation with the Key Actions City of Tomorrow and Cultural Heritage and Systems and Services for the Citizen.

- *Demand management strategies based upon* ***access restrictions*** to the inner city areas and other sensitive zones by means of introducing access control permitting access only to clean and energy efficient vehicles, and to cycling and walking;

- *Demand management and revenue raising strategies based upon* ***integrated pricing strategies*** by means of introducing full scale area wide or city wide pricing schemes;

- *Stimulation of* ***collective passenger transport*** *and its quality of service* by means of introducing clean and energy efficient vehicle fleets; non-conventional transport systems; innovative organisational, financing and management schemes; improved accessibility, security and safety; integration with walking, cycling and other modes;

- ***New forms of vehicle use and/or ownership*** *and lifestyle* by means of introducing new mobility services based upon clean and energy efficient vehicle fleets; car free housing; shared use/ownership of cars, motorised two-wheelers and bicycles;

- *New concepts for the* ***distribution of goods*** by means of introducing innovative logistics services using clean and energy efficient vehicle fleets, dedicated infrastructure and information services;

- *Innovative* ***'soft' measures*** *for managing mobility demand* by means of introducing new approaches to integrated planning; promoting green transport plans, safe walking and cycling, mobility marketing and awareness;

- *Integration of* ***transport management systems****, including related information systems,* ***and passenger services,*** such as those for intermodal travel information, transport pricing and payment, vehicle location and guidance and traffic management.

The proposals must prove that the proposed package is capable of achieving a significant change in modal split and in tackling congestion across a whole city or city-region. They must indicate the initiatives taken to modernise the organisational and financial frameworks for public transport, how the proposed measures support economic development of the city and how planning policy is used to manage the transport impact of dispersal of activities, for instance through integrated land use and transport planning oriented towards public transport.

The proposals must provide clear evidence of political consensus and support, as well as of the fact that the necessary collaborative frameworks are in place to maximise the chances of success. They must build upon the large-scale application of innovative technology; no new research or development of technology should be foreseen as part of this initiative.

Wherever references are made to clean vehicles this means that these should be based upon at least the Euro-4 standard. Introducing higher standards for certain types of vehicles and/or in certain areas is encouraged. A vehicle fleet is a coherent group of vehicles operated by a single operator in a single urban area.

3. Expected results

It is expected that the initiative will produce a number of coherent recommendations on the impacts of radical change in urban transport policy, as well as on the indirect effects on other sectorial policies. Special attention should be paid to analysing the process of preparing and implementing policy change.

This requires a sound impact assessment and evaluation plan, based upon a clearly defined set of 'technical' indicators and targets, as well as other relevant issues such as citizen's response and acceptance, enforcement, economic and financial feasibility, institutional setting, etc. In addition, a plan for wide dissemination of experiences and spread of results should be prepared in order to support acceptance and normalisation and to maximise the impacts on the policies of cities not directly involved in the initiative (multiplier effect).

4. Type of contract

Selected demonstration projects can receive up to 35% EU funding of the allowable and justified costs. In principle, only those costs that are clearly linked to the proposed activities, and that are clearly additional to normal investment and operations costs, will be considered. This excludes large-scale infrastructure investments. For certain costs, such as equipment, the standard depreciation rules defined at the level of the Fifth Framework Programme apply.

5. Timing / Duration

This initiative will be opened in parallel by the Key Action Economic and Efficient Energy of the 'Energie' Programme (Target Action – 5th call for proposals in October 2000) and by the Key Action Sustainable Mobility and Intermodality of the 'Growth' Programme (4th call for proposals in December 2000). Both calls will close in March 2001. Contract signature is foreseen for autumn 2001. The indicative contract length is 36 to 48 months. An inception phase and a mid term assessment procedure are foreseen.

Proposals can be submitted to one of the two programmes, but they must address the objectives, scope and priorities of both programmes. This means that the evaluation criteria and the evaluation thresholds, as described in the evaluation manuals, from both programmes are applicable for each proposal.

6. References

Several European Commission policy papers relevant for urban transport provide background information to this task. These include the 1995 Citizens' Network Green Paper (COM (95) 601), and the 1998 Communication Developing the Citizens' Network (COM (1998) 431). In addition, the new Green Paper on Clean Urban Transport and the new European transport policy White Paper (both under preparation) should be mentioned.

7. Links

Proposals should clearly build upon and incorporate the results of relevant previous and ongoing Community research activities in the fields of energy, transport, information society technologies, urban quality of life, etc.

A separate accompanying project is envisaged that will be responsible for independent monitoring of the demonstration activities – based upon data and reports provided by the demonstration sites, and for the development and implementation of a cross-site evaluation framework. Through this separate project, additional co-ordination and dissemination initiatives could also be undertaken.

Those wishing to make research proposals related to the specific issue of the integration of land use planning and transport planning are referred to the Key Action City of Tomorrow and Cultural Heritage (see http://www.cordis.lu/fp5/src/ec-en7.htm), and its third call that is planned for the end of 2000 (see http://www.cordis.lu/eesd/calls/calls.htm).

Four action lines of the IST Programme Key Action Systems and Services for the Citizen, specifically related to Transport and Tourism (I.5.1-I.5.4), are open until 31 October 2000 for research, demonstration and/or take-up proposals regarding intelligent systems for transport infrastructures, vehicles, tourism and travel services as well as electronic fee collection. Relevant work may be funded in the IST cross-programme action (CPA3) on Infomobility and geo-information services (see http://www.cordis.lu/ist/calls/calls.htm). It is anticipated that IST action lines related to transport and tourism to be opened in 2001 will concern intelligent transport systems, integrated vehicle infrastructure systems, ambient intelligent application systems for mobile users and travel/tourism businesses as well as best practice and trials in transport and tourism.

8. Involvement of non-EU countries

Participation by cities in Accession Countries is particularly encouraged.

9. Consortium profile

Proposals should be prepared by clearly committed cross-national pairs of local initiatives, with each initiative being located in a different country. Each pair should be made up of a lead site and a follower site and should clearly be local-authority driven. Each local initiative should, based upon a partnership approach, incorporate the main relevant actors.

Lead sites should follow the integrative policy-driven approach described above, addressing a maximum number of policy fields. The follower sites should have a more limited responsibility in focusing their work on one specific policy field, with access restriction, collective transport, new forms of vehicle use/ownership and goods distribution being considered as priority fields. The follower sites should also contribute to the validation of the project's results and to dissemination and awareness activities. During contract negotiations, the successful proposals could be clustered and/or merged into larger contracts following the evaluator's guidance.
Taking into account the objective of this initiative, it is probably best suited for medium sized and large cities. The peri-urban areas associated to cities are also addressed by this

initiative, including the large-scale infrastructures located in these peri-urban areas that often provide the interface with long distance networks.

Task 2.1.3/9 Accompanying measure for monitoring and evaluating the introduction of radical strategies for Clean Urban Transport

1. Problem description

This task is part of the CIVITAS initiative and is linked to task ….. on 'Increasing the urban transport system's sustainability and efficiency through radical strategies for Clean Urban Transport'. The projects that will be supported under the demonstration task will combine energy-efficient, cost-effective and clean public and/or private vehicle fleets with a wider package of innovative measures in order to cover both the transport demand and supply side.

There is a need to obtain independent knowledge on the impacts of the introduction of radical integrated sustainable urban transport strategies. Clear European-level policy recommendations can only be developed through a sound and independent pan-European monitoring and evaluation programme. This programme should look at 'technical' impacts, such as traffic growth, modal split, energy consumption, noise and air pollution as well as at other impacts relevant to the policy change process such as citizen's response and acceptance, enforcement, economic and financial feasibility, institutional setting, etc.

2. Task description

The project will be responsible for:

- The development and implementation of an independent pan-European cross-site evaluation programme, in close co-operation with the demonstrators, on the basis of before and after data that will be provided by the demonstration sites. This includes providing specialist advice on the contents, the quality and quantity of the data to be collected at local level. This evaluation programme should be based upon the use of high quality before and after data that allow for minimal margins of error in order to be able to assess whether real changes have occurred. Besides providing input to the pan-European cross-site evaluation, the demonstrators will be responsible for running their own local evaluation programme.
- The development and modelling of a do-nothing baseline scenario for each demonstration site based upon data provided by the sites, against which the technical impacts of the demonstrations will be assessed.
- Independent monitoring of the progress in the implementation of the demonstrations based upon regular technical, financial and management reports provided by the demonstration sites. This includes visits to the sites in order to assess progress and to evaluate the quality of the work performed, as well as providing specialist and independent advice to the Commission[2].
- The development and implementation of a pan-European programme for valorisation of results, dissemination and awareness raising activities, in close co-operation with the demonstration sites. This includes the establishment and regular updating of a separate CIVITAS section on the European Local Transport Information Service on the Internet (www.eltis.org) , the preparation of documentation and the organisation of specific

[2] The rules for implementation of the Fifth Framework Programme and the Competitive and Sustainable Growth Specific Programme must be taken into account. In the relationship with the demonstrators, the European Commission is responsible for contractual matters and for technical and financial project management.

events. The demonstrators will manage their own dissemination programme at local/national level.

- Supporting the activities described above by establishing an advisory committee consisting of leading experts and practitioners which have experience in the management and the evaluation of large scale and complex demonstration projects, as well as in pan-European dissemination, awareness raising and consensus building activities. At least once a year one nominated representative per Member State should be invited for a meeting of this committee.

3. Expected results

It is expected that the project will deliver the following specific results:

- clear European-level policy recommendations, based upon an independent pan-European cross-site evaluation programme in combination with independent monitoring of the implementation of the demonstrators;
- the provision of specialist and independent advice to the Commission;
- a programme for European-level dissemination and awareness raising activities, in order to support acceptance and normalisation and to maximise the impacts on other cities' policies of the demonstration activities;
- the provision of scientific and practical guidance on the development and implementation of the CIVITAS initiative through a series of meetings involving external experts, practitioners and Member States representatives;
- the development and implementation of a mechanism for internal quality control.

4. Type of contract

Accompanying Measure (up to 100% EU funding)

5. Timing / Duration

4th call (December 2000). The indicative contract length is 48 months, but the final duration will only be decided once the length of the contract(s) for the demonstration task has been decided. An inception phase and a mid term assessment procedure are foreseen.

6. References

Several European Commission papers relevant for urban transport explain the policy background information to this task. These include the 1995 Citizens' Network Green Paper (COM (95) 601), and the 1998 Communication Developing the Citizens' Network (COM (1998) 431). New relevant policy papers are being prepared by the European Commission.

7. Links

Proposals for this accompanying measure should clearly build upon and incorporate the results of relevant (inter) national activities in the field of evaluation and indicators. Of particular importance are the guidelines developed by the MAESTRO project on impact assessment of demonstration activities. This project was part of the FP4 Transport RTD Programme. The impact assessments and dissemination activities undertaken by the Thermie Targeted Projects also provide a useful reference.

8. Involvement of non-EU countries

As appropriate.

9. Consortium profile

Proposals should be prepared by small consortia consisting of a core-group of experts in the activities mentioned under 2. Specific technical expertise should be obtained through sub-contracts, about which a decision will be taken during the inception phase. Neither the members of the consortium nor the sub-contractors should have a direct or indirect involvement in the work of the demonstration sites. The project selected under this task should treat all information and data obtained from/on the demonstration

2.3.3/6 Local Elements Definition (GALILEO)

1. Problem Description

As outcome of the GALILEO definition phase projects, the GALILEO architecture is composed of a global component providing a worldwide service, regional components and local components. The local components have been considered as vital devices that will provide users with tailored performances and services. They will allow on the one hand significative improvement of the basic performances of the global component for applications with specific requirements and on the other hand provide synergy for users of other systems, such as mobile communications.
The implementation of local components will allow the development of business cases for private operators. The GALILEO management structure could decide to auction licenses to operate those devices on restricted area basis (e.g. urban areas, airports…). As a consequence they are considered as one of the most important "differentiators" with respect to current positioning systems.
This task has for main objective to contribute to the definition of the local components through an analysis of service providers needs and appropriate inputs to the detailed definition of the system.
The task has to interact in an organised manner and with appropriate documentation with the main detailed Definition, Development and Validation (DDV) Phase Projects[3] of the GALILEO system, which will run in parallel to this task.

2. Task Description

The following documents will be provided as input during the execution of this task:
- GALILEO Mission Requirements Document (MRD)[4]: describing the objectives of the GALILEO Programme (users needs, regulatory context, etc.)
- GALILEO System Requirements Document (SRD): Draft specification of the architecture including local component.

The work under this task shall include the following elements:

- Mission and Requirements Definitions of generic local components for specific or multi-modal applications. These local components can either be based on existing technology adapted for satellite navigation or on the development of new technologies generated in Europe. Requirements such as all weather operation in the ports, coastal and oceanic areas, at airports and also cover all safety critical road, inland waterway and rail applications should be covered.
- More detailed definition with corresponding updates/complement to MRD/SRD documents of one or several local components[5] that fit into the GALILEO infrastructure.

[3] The architecture trade-off, including the technical design of the local components, are part of the DDV project and not part of this task.
[4] MRD Document should be available in a Draft Form as from February 2001. SRD should follow.
[5] Local components will allow users to benefit from precision positioning throughout a city and in areas with poor or no reception of a satellite navigation signal (including in-door) Road and rail transport users and service providers should be enabled to receive GALILEO and integrate the appropriate service in their respective infrastructure.

- Definition of interfaces with other external systems to enable seamless transportation at low cost.
- Analysis of cost impact on the architecture (development, deployment, operation)
- Identification of legal implications: deployment of local components, operators concession, etc.
- Market analysis justification for the proposed local component concept taking into account existing signal transmission alternatives for transport.

It is likely that those tasks have to be consolidated through pilot and/or demonstration projects.[6]

3. Expected Results

The expected results shall be consolidated by delivery of dedicated documentation[7]. The following results are expected:

- Mission requirements for the generic local component.
- Interfaces with the overall GALILEO architecture.
- Interface with communications and reporting systems.
- Specifications of the local area processing centre including the interfaces required for the provision of the signals to the users.
- Definition of level of performances of the local area system.
- Definition of the radio spectrum and the signal structure.

4. Type of contract

Accompanying measures (up to 100% EU funding)

5. Timing/Duration

4th call (December 2000) / 18 months

6. References

- COM (1999) 54 final "GALILEO – Involving Europe in a new generation of satellite navigation services"
- Council Resolution of 19th July 1999 (C221/3.08.99) "The involvement of Europe in a new generation of satellite navigation services — GALILEO-Definition phase".
- COM (439/2000 - Final) "Communication of the European Commission to the Council and European Parliament concerning GALILEO"

[6] Covered under task 2.3.3/9: Development and optimal use of satellite navigation for all modes of transport (GALILEO)

[7] Local components update of MRD, local components update of SRD update. Preparation of a tender dossier to be used as input to the main DDV contract. Date foreseen for initial delivery of these documents is January 2002.

7. Links

Link with overall architecture Definition project results (GALA, INTEG, GEMINUS, etc.)
Link with detailed definition, development and validation projects: ESA design consolidation (phase B2); Development and Validation Phase (Phase C/D)
Link with the tasks: 2.3.3/7 Impact of interoperability on system Definition (GALILEO)
2.3.3/8 Standardisation, Certification and Frequencies (GALILEO)
2.3.3/9 Development and optimal use of satellite navigation for all modes of transport.
Link with existing European legislation applicable to the respective transport modes.

8. Involvement of non-EU countries

As appropriate

9. Consortium Profile

- Telematic sector with experience in road, railway and maritime applications
- Sector of navigation, timing and positioning
- Experiences in urban infrastructure including prospects for in-door services
- City development sector

Experiences in Satellite navigation in the transport sector, ERTMS, ITS and UMTS.

2.3.3/7 Impact of interoperability on the system definition (GALILEO)

1. Problem Description

The performance and robustness of the overall navigation service for users of various transport modes benefits from a good interoperability between different navigation systems. The same is true for solutions where services can easily and cost effectively be integrated within the user terminal. Interoperability enhances thus safety for transport users.

European Commission communication[8] notes that GALILEO will be a means of creating a Trans-European navigation network. Furthermore. GALILEO aims at becoming a global satellite navigation system that will be compatible with other satellite and terrestrial navigation systems in the world. At present satellite navigation is not used as sole means of navigation but together with other systems.

Research is needed on the navigation needs of various regions in order to achieve this interoperability and compatibility between GALILEO architecture and other navigation concepts in a given region, where regional elements of GALILEO are concerned.

The current GALILEO baseline envisages i.a. possibility to offer **regional services to countries outside Europe** in addition to global integrity provided by Europe. This solution can be chosen where a region has specific demands in terms of liability, sovereignty, technical standards or industrial interest. Interoperability cuts across these demands. The regions take into account their existing and planned navigation systems when considering the use of GALILEO.

Apart from GPS and GLONASS also the technical interoperability of regional augmentation systems EGNOS, WAAS and MSAS and their evolution are important factors impacting on the development of regional GALILEO services. The same applies for various terrestrial systems such as the Australian GRAS, Loran C or differential GPS.

For all transport applications there is a need for an interoperable system that will provide cost savings. Legal constraints could affect the world-wide distribution of GALILEO signals and their interoperability. Regions in the world need to be secured so that the user of satellite navigation knows which system he is using.

There is a need to identify main factors impacting on interoperability between GALILEO and existing navigation systems and their evolutions in regions outside Europe. The factors should be prioritised and their impact assessed so that it can be taken account where appropriate in refining GALILEO baseline.

The definition of the Galileo services and as consequence the performances obtainable to users are directly linked to the following main aspects affecting interoperability/compatibility.

- The integration for the current EGNOS service: during the period 2003-2008 EGNOS will deliver alone its service to users, then in 2008 in combination with Galileo.

[8] Towards a Trans-European Positioning and Navigation Network including a european strategy for GNSS. COM(1998) 29 final

- The interoperability with other existing navigation systems and concepts(GPS, DGPS,GLONASS, LORAN, WAAS, MSAS, GRAS) and its evolutions: international standards will evolve which will require upgrades of the current design.
- The setting up of regional components outside Europe: with aims at developing export markets with safety of life application using European technology.
- Adaptation of the different integrity transmission concepts (SBAS or MEO).

The task will allow the evaluation and validation of results obtained.

2. Task Description

The work under this task shall include the following elements:

- Identification of main factors impacting on interoperability between GALILEO and existing navigation systems (GPS, GLONASS, LORAN, WAAS, MSAS, GRAS) and their evolutions in regions outside Europe.
- Refinement of the GALILEO baseline taking into account these factors, EU-US and EU-Russia negotiation scenarios and GALILEO's interfaces with other navigation systems.
- Assessment of different integrity concepts in use and final evaluation taking into account technical and economical constraints.
- Performance assessments (accuracy, availability, integrity, robustness etc…) of GALILEO services combined with GPS, GLONASS, terrestrial navigation systems and autonomous sensors of the receiver and vehicle respectively
- Analysis of the improvement expected from regional components outside Europe in co-ordination with the EGNOS extension initiatives.
- Clarification of legal constraints arising out of a mix of interoperable navigation services and liability attribution.
- Migration from existing navigation systems (DGPS) as inputs for the deployment of the GALILEO local elements

3. Expected Results

- Refinement of the final Galileo definition and system performances
- Research results to support the refinement of GALILEO cooperation policies with regions outside Europe while addressing interoperability with other available navigation systems and the appropriate inclusion of local services
- Prioritized list of factors impacting on interoperability and thus the viability of combined navigation services.
- Impact of EGNOS extention and GALILEO to interoperability of regional services.
- Global acceptability of interoperable and compatible GALILEO services
- Input to legal work aiming at acceptability of a interoperable global GALILEO navigation service (users guide for regulatory authorities)
- Input to international standardisation process

4. Type of contract

Accompanying measures (up to 100% EU funding)

5. Timing/Duration

4th call (December 2000) / 18 months

6. References

- COM (1999) 54 final "GALILEO – Involving Europe in a new generation of satellite navigation services"
- Council Resolution of 19th July 1999 (C221/3.08.99) "The involvement of Europe in a new generation of satellite navigation services — Galileo-Definition phase"
- COM (439/2000 - Final) "Communication of the European Commission to the Council and European Parliament concerning GALILEO"

7. Links

Link with overall architecture Definition contracts.
Link with the following tasks:
a) 2.3.3/8 Standardisation, Certification and Frequencies (GALILEO)
b) 2.3.3/6 Local Elements Definition (GALILEO)
SAGA project

8. Involvement of non-EU countries

Non-EU countries with specific knowledge on the respective systems may be involved where appropriate.

9. Consortium profile

- Institutional expertise with navigation systems.
- Experience within the sector of transport navigation services
- Profound knowledge of system interoperability
- Involvement in international standardisation process
- International experience and expertise in world-wide transport concepts
- Access to required data outside Europe
- Frequency spectrum knowledge

2.3.3/8 Frequencies allocation and protection, Certification and Standardisation

1. Problem Description

Frequencies

The Istanbul WRC Conference in May 2000 confirmed and allocated new spectrum for Radio Navigation Satellite Systems (RNSS), i.e. including GALILEO. These allocation will be reviewed at the next WRC in 2003 and new constraints for the GALILEO architecture could be imposed as a result of technical studies on interference with existing Aeronautical Radio Navigation aids (ARNS) and with other RNSS systems (e.g. GPS and GLONASS).

Certification

Certification aspects are key to GALILEO success. Introduction of guarantees on the GALILEO signal requires the system to be certified and safe, and will enable insurance companies both to offer insurance on GALILEO services and to propose special premiums based on the use of GALILEO.

Standards

Technical studies and ongoing support in standardisation activities are mandatory to spread GALILEO's use in various applications under development. The acceptance of GALILEO by worldwide standardisation bodies is a prerequisite for the introduction of GALILEO in "Safety of life" applications.

2. Task Description

The following documents will be provided as input during the execution of this task:

- GALILEO Mission Requirements Document (MRD)[9]: describing the objectives of the GALILEO Programme (users needs, regulatory context, etc.)
- GALILEO System Requirements Document (SRD): Draft specification of the architecture including local component.

Frequencies

- Technical drafting of signal structures and frequency compliance documents that will ensure spectrum allocation at ITU, as well as participation to the GALILEO-related working groups.
- All necessary research activities to obtain the support of ITU Regions 1, 2, 3 administrations and technical co-ordination with involved third countries to ensure optimal frequency allocation for GALILEO (CITEL, APT, Arab and African regions).
- Support to EC in the GALILEO frequency allocation activities at ITU. Representation at ITU (Working Party 8D, Working Party 7D, Task Group 1/5) and CEPT (SE 28, PT3 and CPG) working groups dealing with RNSS matters will be required.
- Preparation and participation to WRC 2003.
- Study of the best approach to be followed for GALILEO spectrum notification and allocation.

[9] MRD Document should be available in a Draft Form as from February 2001. SRD should follow.

The activities under this task will assist co-ordination on GALILEO frequency related matters. The particular overall frequency organisational framework (National Administrations, Member States, European Commission, etc.) shall be respected.

Certification

- Requirements identification for a successful certification of GALILEO signals and receiver equipment in all transport modes.
- Support to the creation of a new certification environment suitable for GALILEO. In addition, existing certifications for all modes of transports have to be obtained for the pilot GALILEO infrastructure and a concept for obtaining a certification of the full constellation in all modes of transports has to be prepared.
- Threat analysis for jamming and spoofing of the GALILEO signal and development of controlled access measures.

It is expected that space segment manufacturers, certification authorities and insurance companies will contribute to activities related to these tasks.

Standardisation

- Support activities in standardisation procedures for spectrum and signal structure at standardisation bodies (e.g. ICAO, IMO, ETSI, etc.).
- Study of the adequate signal structure and frequency selection that allows the standardisation process to proceed successfully.
- Standardisation issues related to the production of digital maps, positioning data transmission formats (UMTS) and acceptance of GALILEO in applications like civil protection, transport of dangerous goods, fisheries, maritime surveillance, environment monitoring, etc.

The outcome of this work will be essential for the ongoing SAGA activities in terms of technical baseline and signal description.

3. Expected Results[10]

Preparation and introduction of GALILEO issues for WRC 2003 in order to ensure the viability of the chosen GALILEO architecture. It is expected that this task shall produce results to be used in International Fora to demonstrate the harmlessness of GALILEO in terms of interference.

Implementation of a certification procedure for GALILEO for most applications. Introduction of certification of GALILEO services to the responsible certification authorities in different states. Demonstration that GALILEO will offer safe services and is therefore able to get the required insurance cover.

Ensure the success of the standardisation activities regarding GALILEO at ICAO, ITU, IMO, IALA, ETSI, IEC and other standardisation bodies through technical documentation that leads to validation. Support in the technical standardisation activities related to signal structure and spectrum issues.

[10] Initial delivery of “assessment documents” having major impact on the Development and Validation phase of GALILEO shall take place in January 2002. Regular results output shall follow.

4. Type of contract

AM (up to EU contribution 100%)

5. Timing / Duration

4th Call (December 2000) - 36 months

6. References

- COM (1999) 54 final "GALILEO – Involving Europe in a new generation of satellite navigation services"
- COM (2000) 439 final "Communication of the European Commission to the Council and European Parliament concerning GALILEO"
- Council Resolution of 19th July 1999 (C221/3.08.99) "The involvement of Europe in a new generation of satellite navigation services — GALILEO-Definition phase"
- Communication on the results of the World Radio Conference 2000.
- WRC 2000 resolutions COM 5/15, COM 5/16, COM 5/19, COM 5/20, COM 5/21

7. Links

- Link with the SAGA project.
- Link with the following ITU working groups: Working Party 8D, Working Party 7D, Task Group 1/5.
- Link with CEPT working groups SE 28, PT3 and CPG.
- The work shall be performed in coherence with EC frequency policies.

8. Involvement of non-EU countries

As appropriate involvement of CEPT, ATP and CITEL member countries.

9 Consortium profile

- Industry
- National authorities and administrations
- Experience in WRC and ITU activities
- Experience with certification at European level
- Experience in existing standardization process (UMTS, ICAO, IMO, ERTMS)

2.3.3/9 Development and optimal use of satellite navigation for all modes of transport (GALILEO)

1. Problem Description

During the definition phase of the GALILEO programme, set of pilot projects (within the GALA project) has been studied, and case studies (part of the GEMINUS project) have demonstrated the economical benefits for some niche applications.

The definition phase work has shown the potential of setting up navigation applications before the full GALILEO system becomes operational in order to accelerate its use in the transport sector. The necessity to evaluate benefits of some "typical" local components through implementation of demonstrations and pilot projects, and through an analysis of their economical viability was also highlighted.

The projects covered under this task shall be based not only on existing positioning and timing services, but also on GNSS test beds in development (due account shall also be made of existing telecommunication services) and local component hardware development. The projects will highlight the benefits of GALILEO-enabled navigation (and timing) services in all transport modes, in view of their future implementation. Hybridisation with other sensors and systems (navigation and communication) is an important aspect that needs to be addressed. They shall take into account developments of standard and encompass (but are not restricted to) the following areas:

- Mobility at sea (e.g. maritime monitoring, harbour entrance, etc.)
- Urban mobility modes (including tunnels, underground, indoors parking, warehouses, etc.)
- Air mobility (e.g. civil aviation, private flight air safety, etc.)
- Rail Mobility (e.g. train control, train supervision, etc.)
- Road mobility (e.g. dynamic route guidance, electronic tolling / cost recovery mechanisms, emergency and breakdown call and stolen vehicle services, travel and traffic information, road regulatory support and enforcement, etc.)
- Safety of Life-related transport
- Intermodal mobility (e.g. freight transport between all modes, inland waterways, transport of nuclear waste, etc.)

2. Task Description

The following documents will be provided as input during the execution of this task:
– GALILEO Mission Requirements Document (MRD)[11]: describing the objectives of the GALILEO Programme (users needs, regulatory context…)
– GALILEO System Requirement Document (SRD): Draft specification of the architecture including local component.

The projects will produce wide scale implementation of satellite navigation in various domains in Europe. Where possible, maximum visibility of the results shall be implemented (e.g. through so-called "big events", like Olympic games or other international events, etc.).

[11] MRD document should be available in Draft Form as from February 2001. SRD should follow.

Based on results of local component definition[12], the work under this task shall cover the following aspects:

- Validation of the mission concept through simulations with participation of users.
- Safety assessment of the local component concept for all modes of transport enabling a system that fulfils stringent standards and will be certifiable. This should also take into account the requirements for dangerous good transportation tracking.
- Pilot projects for transport policies enforcement mechanisms (e.g. inner city speed control, dangerous goods tracking, mobility billing, etc.) based on a GALILEO local component.
- Pilot projects in selected cities on applications such as fleet management, rescue services. These projects should actively involve the local authorities to adapt their requirements.
- Definition and development for an integrated intelligent transport guidance system for specific context (e.g. the 2004 Olympics in Athens).

All pilot projects being likely to be implemented in 2002 should be based on simulation, pseudolites, existing systems and GNSS testbeds. In first instance, priority should be given to the use of the EGNOS testbed, in a second step, the GALILEO System Test Bed (GSTB[13]) shall also be considered as an integral part of the pilot project environment.

3. Expected Results

- Results of the improvement of Satellite Navigation performance in cities and tunnels (including in-door services).
- Awareness of the improved performances of a GALILEO local component in cities throughout Europe, of satellite navigation services in general and highlight of the advantages with respect to actual navigation services.
- Pilot applications that can be used by potential users.
- Evidence on economic viability of the local component concept.
- Synergy with other system in particular communication and reporting systems should be validated.
- Demonstration based on satellite navigation with integrity information.
- Validate the local component design definition.
- Favour market acceptance of local components.

Pilot projects related to local components shall imperatively contribute to the corresponding local component definition[14].

4. Type of Contract

RTD project (up to 50% EU funding)

5. Timing/Duration

4th call (December 2000) / 36 months

[12] From MRD, SRD and from further information elaborated under task 2.3.3/6 “Local Components Definition”.
[13] Under development by the European Space Agency.
[14] Input to task 2.2.3/6 Local Component Definition, by December 2002 at the latest.

6. References

- COM (1999) 54 final "GALILEO – Involving Europe in a new generation of satellite navigation services"
- Council Resolution of 19th July 1999 (C221/3.08.99) "The involvement of Europe in a new generation of satellite navigation services — GALILEO-Definition phase"
- COM (2000) 439 final "Communication of the European Commission to the Council and European Parliament concerning GALILEO"

7. Links

– Link with overall architecture Definition project results (GALA, INTEG, GEMINUS, etc.)
– Link with detailed definition, development and validation projects:
a) ESA design consolidation (phase B2)
b) Development and Validation Phase (Phase C/D)
– Link with testbeds development activities
– Link with the tasks
a) 2.3.3/6 Local Components Definition (GALILEO)
b) 2.3.3/7 Impact of interoperability on system Definition (GALILEO)
c) 2.3.3/8 Standardisation, Certification and Frequencies (GALILEO)
– Link with existing European legislation applicable to the respective transport modes
– Due account shall also be taken of relevant activities in the other thematic programs of the Fifth Framework Programme with a particular emphasis on the developments made under the key action on Systems and Services for the Citizen of the Information Society Technology Programme.
– Links with the ASTRON project from the Joint Research Centre.

This task and task 2.3.3/6 Local Components Definition (GALILEO) have to interact in an organised manner and with appropriate documentation.

8. Involvement of non-EU countries

As appropriate.

9. Consortium profile

- Sector of navigation, timing and positioning
- Service providers, service operators, user associations and experts in the various application domains.
- Experiences in urban infrastructure including prospects for in-door services
- City development sector
- Experiences in Satellite navigation in the transport sector, ERTMS, ITS and UMTS.

2.3.3/10 Detailed service analysis (GALILEO)

1. Problem description

The high technology domain of satellite navigation and associated infrastructures is evolving at an impressive pace. The penetration of positioning and communication services in a wide range of applications creates new and changing needs every day.

The Galileo Definition Phase has allowed establishing a good definition of user needs based upon analysis of wide range of applications. However, several aspects have to be consolidated. For instance, characterisation of service attributes, discriminators and interoperability with respect to other systems; (positioning, mobiles systems), consolidation of service definition for Search and Rescue, Timing…

Moreover, the mechanisms to follow, analyse and anticipate user demand in terms of navigation and timing services have to be implemented. Full integration of services at system provider and user equipment level (taking into account development of local components) shall be addressed.

2. Task description

The following documents will be provided as input during the execution of this task:
GALILEO Mission Requirements Document (MRD)[15]: describing the objectives of the GALILEO Programme (users needs, regulatory context…)
GALILEO System Requirement Document (SRD): Draft specification of the architecture including local component

A first sub-task focuses on the analysis and consolidation of user needs. A second one cover the provision of appropriate tools to test the corresponding services at users level.

The projects under this task will provide the necessary experience, tools and data to ensure that the GALILEO design correctly covers the required user needs. Appropriate mechanisms will be put in place in order to influence GALILEO design with respect to "on-the-field" experience.

Sub Task-1: Market Aspects

The task shall cover the creation of a user consultation mechanism and participation to the elaboration and monitoring of mission requirements (including service definition). The setting up of a navigation market observatory and market acceptance of local component shall also be addressed.
Intellectual Property Rights, patents and related aspects shall be analysed in terms of their impact on the use and commercialisation of GALILEO[16].

[15] MRD document should be available in a Draft Form as from February 2001 and then will be updated in June 2001. SRD should follow
[16] This shall be done in conjunction with the task 11, related to legal, institutional and regulatory issues.

Sub Task-2: User Tools

Based on the results of the GALILEO definition phase (in particular GEMINUS project), a set of tools shall be developed in order to feed back user requirements to the system design:

- Transport user products based on hybridisation of GALILEO services with other navigation systems in view of the development of fully integrated positioning/timing solutions for transport efficiency improvement.
- Seamless/continuous urban mobility positioning/timing tools.
- GALILEO transport application products core modules developments (Dual-mode GALILEO/GPS, multi-frequency, multiple channels).

3. Expected results

Sub Task-1: Market Aspects

The consolidation of users requirements should be documented through an update of the MRD at appropriate milestones[17].

The market observatory will provide the necessary information to perceive the most salient characteristics to be embedded in the GALILEO infrastructure design. This mechanism shall lead to an optimisation of the services offered by GALILEO.

Sub Task-2: User Tools

The complementary user tools projects will provide the necessary tools to verify the full integration of GALILEO in the transport user environment.

4. Type of contract

Sub Task-1: AM project (up to 100% EU funding)
Sub Task-2: RTD project (up to 50% EU funding)

5. Timing/Duration

4th call (December 2000) / 36 months

6. References

- COM (1999) 54 final "GALILEO – Involving Europe in a new generation of satellite navigation services"
- Council Resolution of 19th July 1999 (C221/3.08.99) "The involvement of Europe in a new generation of satellite navigation services — GALILEO-Definition phase".
- COM (2000) 439 final "Communication of the European Commission to the Council and European Parliament concerning GALILEO"

[17] Update of the MRD based on this work should be provided in January 2002.

7. Links

– Link with overall architecture Definition project results (GALA, INTEG, GEMINUS, etc.)
– Link with detailed definition, development and validation projects:
a) ESA design consolidation (phase B2)
b) Development and Validation Phase (Phase C/D)
– Link with existing European legislation applicable to the respective transport modes
– Links with the GNSS testbed developments.
– Due account shall also be taken of the relevant activities in the other thematic programs with a particular emphasis on the developments made under the Fifth Framework Programme in key action "Systems and Services for the Citizen" of the Information Society Technology Programme. Particular attention shall also be placed on digital cartography developments.
– Link with the setting up of a public private partnership for GALILEO.
– Link with the following tasks
a) 2.3.3/7 Impact of interoperability on system Definition (GALILEO)
b) 2.3.3/8 Standardisation, Certification and Frequencies (GALILEO)
c) 2.3.3/9 Development and optimal use of satellite navigation for all modes of transport
d) 2.3.3/6 Local Components Definition (GALILEO)

8. Involvement of non-EU countries

As appropriate

9.Consortium profile

Equipment manufacturers, navigation- (and communication-) related companies, service providers, navigation/timing market experts, geographical information institutes / companies.

2.3.3/11 Legal, institutional and regulatory framework for GALILEO

1. Problem description

The Definition phase of GALILEO unveiled the urgent need to set up a suitable legal, institutional and regulatory framework for GALILEO with special emphasis on all safety of life and strategic applications (e.g.: Aviation, Waterborne Transport, Transport of dangerous goods, Railways).
Only a viable institutional and legal framework can guarantee the success of a Public-Private Partnership and the regulatory functions of the European Union.
Part of this framework needs to be the regulatory function of the public side because only the regulatory function justifies a long-term involvement of the public sector in the management of GALILEO.
Moreover, recent accidents have demonstrated that only a regulation of commercialised transport services provides the European citizens which the necessary degree of safety.
For the time being most of this regulation is being dealt within national legislation. As the transport widens to a sector without artificial borders, the regulation of this sector has to cope with it. Satellite navigation will be the first trans-national service that needs European wide regulation in order to comply with the safety standards. Hence the GALILEO signal needs to be regulated by a European wide regulatory mechanism. To ensure that the GALILEO signal complies with the safety standards, it appears necessary to set up a GALILEO signal regulator.
The GALILEO definition phase highlighted the need for a world-wide Intellectual Property Right and patent survey and analysis, in order to assess the potential market barriers associated.
The selection of a private operator to run the GALILEO system involves the need to establish a concession or licence model.
Potential revenue streams are also dependent on their legal feasibility or the possibility to make use of existing revenue streams (airports or ports taxes, etc.)

2. Task description

The proposed study needs to address the following points:

- Develop a suitable and feasible institutional scenario for the GALILEO operation.
- International survey of IPR and patent constraints at the relevant IPR and patent registers to identify possible markets developments obstacles.
- Assessment of the need for continuous public involvement based on regulatory constraints.
- Assessment of the proposed PPP scenarios.
- Review of the legal feasibility of using potential new or existing revenue streams.
- Definition and applicability of potential dual use constraints for GALILEO signals and equipment.
- Establish a suitable and viable scenario for a GALILEO regulator.
- Define all elements of this new regulatory body including the institutional environment.
- Define the nature of the relationship between the public actors and the private actors involved in the GALILEO operation.(public and commercial services)
- Elaborate recommendations to enable the implementation of position sensors inside radionavigation or existing on board users systems taking into account the protection of the privacy rights.

3. Expected Results

- The study should assess the relevant legal constraints for the establishment of the GALILEO operation.
- It should propose a feasible institutional framework.
- An IPR and patent survey should enable the emergence of cost efficient added value services with respect to IPR and patent legislation.
- Contribution to the Definition of the missions of the future GALILEO regulator as well as proposing the way towards the establishment of the GALILEO definitive public body.

4. Type of contract

Accompanying measure (up to 100% EU funding)

5. Timing/ Duration

4th Call (December 2000) / 24 months

6. References

- COM (1999) 54 final "GALILEO – Involving Europe in a new generation of satellite navigation services"
- Council Resolution of 19th July 1999 (C221/3.08.99) "The involvement of Europe in a new generation of satellite navigation services — Galileo-Definition phase"
- COM (2000) 439 final "Communication of the European Commission to the Council and European Parliament concerning GALILEO"

7. Links

Claim and MUSSST studies
GALA, GEMINUS projects

8. Involvement of non-EU countries
As appropriate

9 Consortium profile

- National authorities
- Private companies with expertise in the subject matter
- Expertise in international law
- Universities and law schools
- Outstanding experience in IPR and Patent survey and the European Office of Patents

ANNEX

LIST OF TASK

1st CALL. MARCH 1999

THESE TASKS **ARE NOT OPEN**

LIST OF TASKS
1st CALL. MARCH 1999

Objective 2.1 Socio-economic scenarios for mobility of people and goods

2.1.1 Quantitative tools for decision-making

2.1.1/1 Testing of methodologies for long distance passenger travel data
2.1.1/2 Transport network accounts and marginal costs in relation to fair payment for infrastructure use
2.1.1/3 Thematic network on policy and project evaluation methodologies
2.1.1/4 Understanding and predicting mobility trends and transport patterns
2.1.1/5 Transport Modelling and Exploration Tools
2.1.1/6 Analysis of the cost structure of door-to-door intermodal freight transport services and the conditions to optimise it.
2.1.1/7 Thematic network on Benchmarking in transport

2.1.2 Driving forces in transport

2.1.2/1 Effects on Transport of Trends in Logistics and Supply Chain Management
2.1.2/2 Role of third party logistics service providers and their impact on transport
2.1.2/3 Influencing transport intensity of economic growth

2.1.3 Policies for sustainable mobility

2.1.3/1 Changing legal and organisational frameworks in local public transport: assessing the impacts on roles and activities of key players

Objective 2.2 Infrastructures and their interfaces with transport means and systems

2.2.1 Infrastructure development and maintenance

2.2.1/1 Integration between local and regional rail, incl. cross-border aspects
2.2.1/2 Improvement of cross-border connections for local and regional passenger transport
2.2.1/3 Optimisation of the use of semitrailers in the intermodal transport chain
2.2.1/4 Thematic Network on freight transfer points and terminals
2.2.1/5 Integration of horizontal transhipment techniques in intermodal transport operations
2.2.1/6 Total Airport Optimisation by Simulation, including land-side
2.2.1/7 Thematic Network on maintenance and management of railway infrastructure
2.2.1/8 Condition based, and reliability centred, maintenance of railway infrastructure
2.2.1/9 Automated underground distribution and tube transportation systems

2.2.2 Environment

2.2.2/1 Thematic network on transport and the environment
2.2.2/2 Monitoring emissions from transport, including particulates
2.2.2/3 In-service Test Procedures for Road Vehicle Emissions
2.2.2/4 Thematic network on the integration of new generation vehicles into the transport system
2.2.2/5 Tools and strategies for reduced source noise and vibrations from trains

2.2.3 Safety

2.2.3/1 Cost/benefit analysis of regulations and investments to optimise air transport safety

2.2.3/2 Improve the regulatory framework for the implementation of new operational concepts and technologies in air transport

2.2.3/3 Thematic Network on Safety Assessment in Waterborne Transport

2.2.3/4 Cost-efficient integration of new safety technologies to improve Quality Shipping

2.2.3/5 Thematic Network on Cost/Benefit and Cost-Effectiveness Assessment Tools for Road Safety/Environment Measures.

2.2.3/6 Further Development of Road Vehicle Safety Standards

2.2.3/7 Drivers' and Riders' Physical Fitness and Physical State.

2.2.4 Security

2.2.4/1 Security in local and regional public transport

2.2.5 Human factors

2.2.5/1 Training to improve the safety of air transport operations

2.2.5/2 Driver Training and Hazard Perception

2.2.5/3 Thematic Network on Maritime Education, Training and Certification

2.2.5/4 Promoting the take up of project results by leading educational institutions

Objective 2.3 Modal and intermodal transport management systems

2.3.1 Traffic management systems

2.3.1/1 Extension of ERTMS System specification

2.3.1/2 The definition and management of a master plan for ATM validation

2.3.1/3 Full Airport A-SMGCS Test Trial

2.3.1/4 Assessment of User Needs for Traffic Information and Traffic Management and their Reaction to Methods of Information Provision.

2.3.1/5 Enhanced Road Traffic Simulation for Transport Strategy Assessment.

2.3.1/6 Implementation scenarios and impact assessment of advanced driver assistance systems

2.3.1/7 Thematic Network for the creation of an intermodal framework for freight transport information and management services.

2.3.1/8 Designs for inter-urban road pricing schemes

2.3.1/9 Testing the effectiveness and acceptance of urban pricing schemes

2.3.1/10 Thematic Network on Waterborne Traffic Management and Information Services

2.3.2 Transport and mobility services

2.3.2/1 Thematic Network on rail freight services

2.3.2/2 Innovative Waterborne Transport Concepts

2.3.2/3 Thematic Network on an Operational Platform for Quality Shipping

2.3.2/4 Thematic Network on movement of goods in urban areas

2.3.2/5 Mobility management - new partnerships to encourage sustainable travel

2.3.2/6 Travel awareness, communication, education and publicity

ANNEX

LIST OF TASKS

2nd CALL. DECEMBER 1999

THESE TASKS **ARE NOT OPEN**

LIST OF TASKS
2nd CALL. DECEMBER 1999

Objective 2.1 Socio-economic scenarios for mobility of people and goods

2.1.1 Quantitative tools for decision-making

2.1.1/8 Thematic Network on transalpine crossing

2.1.2 Driving forces in transport

2.1.2/4 Cluster on socio-economic impacts of transport investments and policies and network effects

2.1.3 Policies for sustainable mobility

2.1.3/2 Implementation of marginal cost pricing in transport

Objective 2.2 Infrastructures and their interfaces with transport means and systems

2.2.1 Infrastructure development and maintenance

2.2.1/10 Improved tools for railway infrastructure capacity and access management
2.2.1/11 Road infrastructure pavement maintenance management
2.2.1/12 Thematic Network on airport activities

2.2.2 Environment

2.2.2/6 Use and Integration of New-generation Vehicles and Radically Improved Propulsion Systems in the Transport System
2.2.2/7 Assessment and development of mitigation measures and procedures for environmentally friendly shipping operations

2.2.3 Safety

2.2.3/8 Drivers' and Riders' Physical Fitness and Physical State
2.2.3/9 Safety in tunnels

2.2.5 Human factors

2.2.5/5 Training concepts for improved cross-border train operations
2.2.5/6 Development of methodologies and performance measures to assess long term safety implications of new in-vehicle technologies including HMI for road transport.

Objective 2.3 Modal and intermodal transport management systems

2.3.1 Traffic management systems

2.3.1/11 Thematic Network on Air Transport and ATM Validation activities
2.3.1/12 Assessment of new concepts for ship and shore traffic management and information systems (VTMIS) to improve efficiency in waterborne transport operations

2.3.2 Transport and mobility services

2.3.2/7 Innovative intermodal transport solutions for non-unitised cargoes and other specific market segment
2.3.2/8 Integration of air freight transport in the intermodal transport chain

ANNEX

LIST OF TASKS

3rd CALL. JUNE 2000

THESE TASKS **ARE NOT OPEN**

LIST OF TASKS
3rd CALL. JUNE 2000

Objective 2.1 Socio-economic scenarios for mobility of people and goods

2.1.1 Quantitative tools for decision-making

2.1.1/9 Development of a European Transport policy Information System (ETIS) as a basis for transport planning and policy formulation

2.1.1/10 Designing a database structure for in-depth road accident investigation

2.1.2 Driving forces in transport

2.1.2/5 Economic, environmental and social for the sustainable development of transport

2.1.2/6 Implications of non-transport policies and societal developments on mobility

2.1.2/7 European transport visions beyond 2020

2.1.2/8 Potential of intermodal freight transport for modal shift

2.1.3 Policies for sustainable mobility

2.1.3/3 Thematic Network on common issues of transport research concerning European and North American Countries

2.1.3/4 Economic instruments, regulation and physical measures for achieving transport policy objectives

2.1.3/5 Thematic network on local and regional public transport

2.1.3/6 Best practices in decision-taking on local and regional transport schemes

2.1.3/7 Designing local transport policy to integrate freight transport

Objective 2.2 Infrastructures and their interfaces with transport means and systems

2.2.1 Infrastructure development and maintenance

2.2.1/13 Improvement of intermodal freight terminal operations at border crossing terminals including CEECs

2.2.1/14 Improvement of intermodal transport operations in terminals

2.2.1/15 Assessment of the availability of intermodal transport means and suitable infrastructure in CEECs to implement co-operation on Trans-European intermodal transport between EU and CEECs

2.2.1/16 Strengthening the interoperability in intermodal transport chains at the level of equipment, infrastructure and transport means

2.2.1/17 Optimising railway network development

2.2.1/18 Road Infrastructure Materials

2.2.1/19 Integration of passenger terminals in intermodal transport networks

2.2.1/20 Arrival/departure/ground movement integration for air transport operations

2.2.1/21 Enhancement of port operations and management to improve Quality Shipping

2.2.1/22 High-speed vessels: identification of requirements and impact assessment

2.2.2 Environment

2.2.2/8 Vehicle/tyre/road noise abatement measures

2.2.2/9 Thematic network on the integration of environment in the transport policy
2.2.2/10 Reducing the impact of noise and emissions from land transport in urban areas
2.2.2/11 Assessment of environmentally friendly operations for dangerous goods in ports and other terminals

2.2.3 Safety
2.2.3/10 Thematic network on cost/benefit and cost/effectiveness assessment tools for road safety measures
2.2.3/11 Impact assessment of procedures and technologies to increase air transport system capacity and safety, and reduce environmental impact
2.2.3/12 Emergency evacuation of Very Large Transport Aircraft
2.2.3/13 Increased aircraft passenger survivability through the application of automotive design philosophies

2.2.5 Human factors
2.2.5/7 Improved accessibility between station platforms and trains for heavy rail

Objective 2.3 Modal and intermodal transport management systems

2.3.1 Traffic management systems
2.3.1/13 Demonstration of an integrated management and communication system for door-to-door intermodal freight transport operations
2.3.1/14 Requirements for urban train control systems
2.3.1/15 Specification and assessment of data collection and communication strategies for road traffic data management and traffic information systems
2.3.1/16 Road speed management methods assessment
2.3.1/17 Operational Platform for a European ATM system in the medium term timeframe (2005 – 2010)
2.3.1/18 Advanced airport approach procedures implementation
2.3.1/19 Operational Platform for River Information Services (RIS)

2.3.2 Transport and mobility services
2.3.2/9 Door-to-door services for less than container load (LCL) and small consignments
2.3.2/10 Fast cargo trains in cross-border traffic
2.3.2/11 Intermediate mass transport: innovative bus/tram concepts
2.3.2/12 Integrated mobility services in low-density rural areas
2.3.2/13 Non technical issues linked to cross-border intermodal traveller information, reservation ant ticketing services complimentary to rail journeys
2.3.2/14 Thematic network on the development of European strategies to promote short sea shipping, sea-river and inland navigation
2.3.2/15 Optimised waterborne operations in support of a European Northern Dimension. Operational Platform